

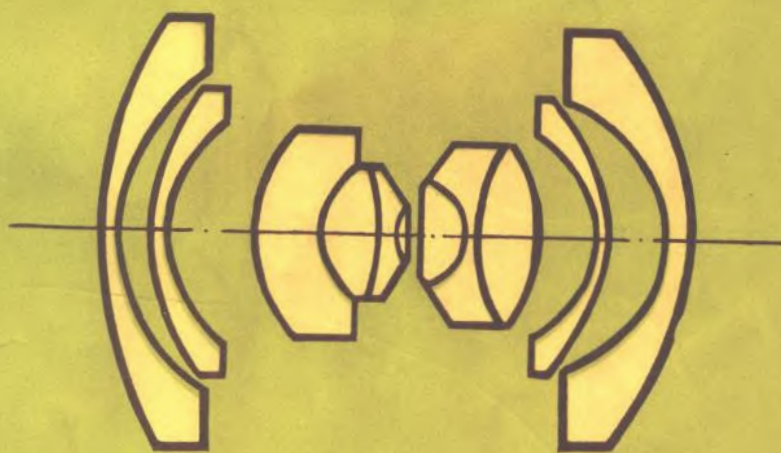
光学镜头手册

第二册

福建光学技术研究所

编译

国营红星机电厂



国防工业出版社

光学镜头 三

第二册

福建光学技术研究所 编译
国营红星机电厂

国防工业出版社

内 容 简 介

本手册收集和整理了美、英、德、日等国从1811年至现在历年来的光学镜头资料。本册主要内容仍为大相对孔径物镜，共115个。每个镜头都附有光学镜头的结构图、各种主要参数及象差曲线图。

本手册可供研究所和工厂的光学设计人员和大专院校光学专业的师生参考。

光学镜头手册

第 二 册

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国营红星机电厂

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编 译 者 说 明

由于电子工业和电影、电视事业的飞速发展，近年来我国在光学镜头设计及加工方面取得了很大进展。成系列的各类镜头已经设计和试制出来，有些并已进入成批生产阶段。但在品种、数量和质量方面，跟世界先进水平相比，差距还是比较大。

近年来，我们收集了美、英、德、日等国从 1811 年到现在的光学镜头资料共 3000 多种，现挑选其中的一部分经补充整理之后，将其出版，以供我国从事光学镜头设计的人员参考。

我们准备分成“大相对孔径物镜”，“中等视场中等孔径物镜”，“广角物镜”，“制版及投影物镜”，“显微物镜”，“变焦距物镜”，“目镜”，“非球面系统”和其它等九类进行整理，预计分成十册。每册收集的镜头数约为 100~200 个。

原资料中，大部分没有列出象差曲线图，我们均重新计算给予补上。由于原资料的光栏位置大多没有给出，我们计算时只能根据我们主观给定的光栏位置进行计算，因此相应的象差曲线图仅供参考。

本册的内容仍为大相对孔径物镜。

由于我们水平有限，时间仓促，力量不足，所以只能一部分一部分地整理出版，而且在整理过程中，一定存在不少缺点和错误，分类也不可能完全合理，望读者批评指正。

本册中德文部分是由 1411 所陆家和同志翻译的。参加本册编译工作的有林茂智、杨甦田、叶恩霖、刘淑栓等四位同志。

编 译 者

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符号说明

1. 凡数据后有符号“*”，表示光栏位置或其值中间有光栏。

凡数据后有符号“**”，表示原资料中未给此值，此系编者在计算时给定的值。

2. 凡没有注明数值单位的，均以毫米为单位；若注明以英寸为单位，则在该镜头资料中均以英寸为单位。

3. 常用符号：

ΣS_1	球差系数和；
ΣS_2	彗差系数和；
ΣS_3	象散系数和；
ΣS_4	场曲系数和；
ΣS_5	畸变系数和；
LA'	球差；
$\Delta H'$	绝对畸变；
x'_t	细光束子午场曲；
x'_s	细光束弧矢场曲；
$x'_t - x'_s$	象散；
K'_{T_1}	全口径的子午彗差；
$K'_{T0.7}$	0.707口径的子午彗差；
QP	相对畸变；
HI	理想象高；
E. F. L	焦距；
B. F. L	后截距；
FNo.	相对孔径倒数；
F. A.	视场角；
L'_p	入瞳距离或光栏距 L'_p 下标所示面的距离；
η	物高；
ω	镜头视场。

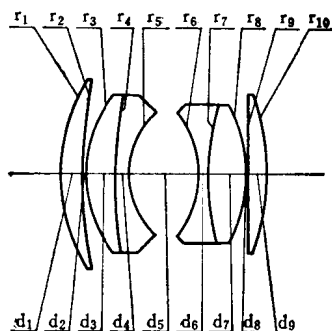
编号: 02-00-001

双高斯型物镜

E. F. L = 100

B. F. L = 72.43

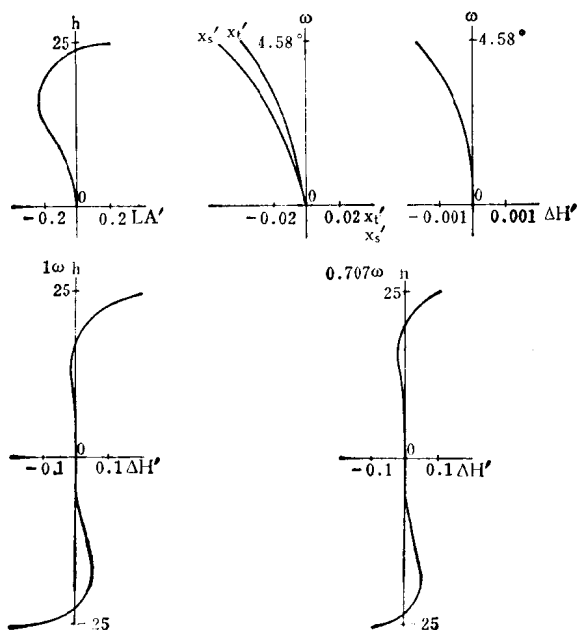
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	54.83	6.71	1.67003	47.2	6	-30.20	3.17	1.63980	34.6
2	156.25	1.27			7	90.18	11.88	1.65844	50.8
3	39.67	8.93	1.69347	53.5	8	-41.87	0.21		
4	168.32	3.52	1.66446	35.9	9	2359.37	5.25	1.74472	44.7
5	25.89	21.21*			10	-77.24			

21.21* = 10.00 + 11.21

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.13	0.0051	0.00082	-0.0077	-0.00085	8	-0.02%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.2	-0.0017	-0.041	-0.054	0.013	0.029	0.021
70	-0.26	-0.0006	-0.021	-0.027	0.0064	0.021	0.015



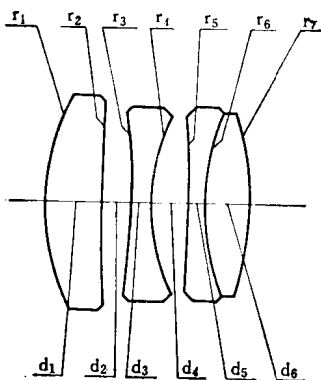
编号: 02-00-002

摄影物镜

E. F. L = 1

B. F. L = 0.80566

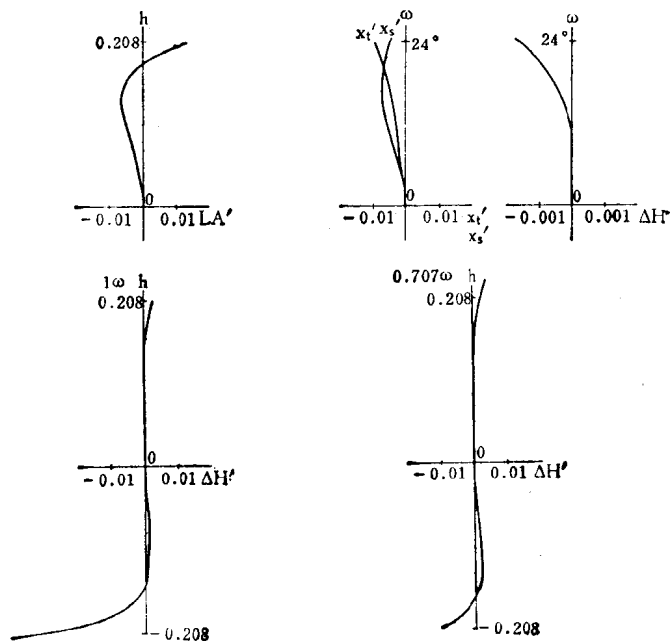
FNo. = 2.4

F. A. = $\pm 24^\circ$ 

序号	r	d	n_d	v_d	序号	r	d	n_d	v_d
1	0.455042	0.11732	1.78797	47.44	5	-14.149473	0.03355	1.62004	36.34
2	7.882584	0.05729			6	0.492931	0.08778	1.78443	43.77
3	-0.862766	0.03876	1.68893	31.15	7	-0.580024			
4	0.397638	0.07705*							

$$0.07705^* = 0.03000 + 0.04705$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.002	0.0006	0.000024	-0.0017	-0.00012	0.43	-0.38%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.012	-0.0016	-0.0090	-0.0043	-0.0047	-0.018	-0.0019
70	-0.0055	-0.00036	-0.0059	-0.0068	0.00095	-0.0044	0.00025



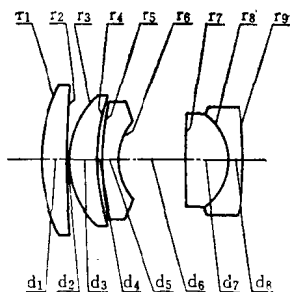
编号: 02-00-003

摄影物镜

E. F. L = 100

B. F. L = 49.91

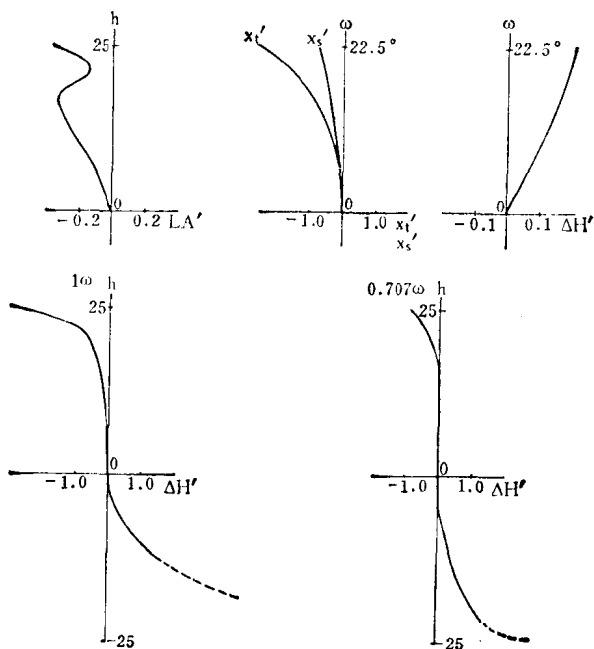
FNo. = 2

F. A. = $\pm 22.5^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	50.82	7.74	1.5688	63.1	6	18.55	21.90*		
2	278.16	0.07			7	379.58	12.61	1.6700	47.1
3	27.83	8.90	1.7015	41.1	8	-17.62	4.38	1.6073	49.2
4	61.65	1.00			9	-115.32			
5	83.58	4.88	1.7408	27.7					

$$21.90^* = 19.00 + 2.90$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.20	0.20	-0.073	-0.16	0.36	42.27	0.52%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.39	0.22	-2.71	-0.70	-2.01		1.81
70	-0.34	0.18	-1.09	-0.65	-0.44	5.46	0.38



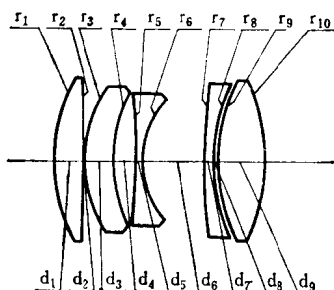
编号: 02-00-004

物 镜

E. F. L = 100

B. F. L = 56.18

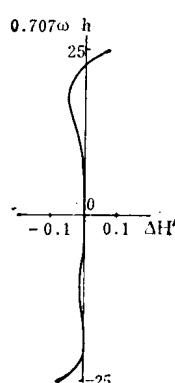
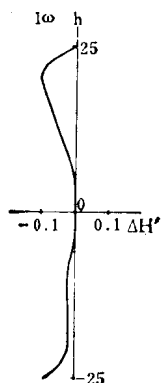
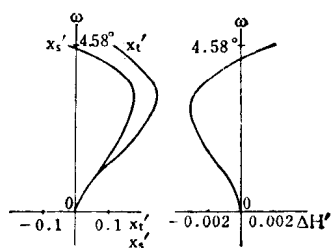
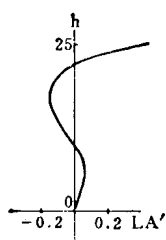
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	48.57	8.57	1.6068	59.5	6	27.43	19.05*		
2	-952.45	0.48			7	200.01	2.86	1.6068	59.5
3	38.10	9.52	1.6068	59.5	8	56.19	0.48		
4	48.19	5.71			9	51.43	14.29	1.6068	59.5
5	-223.83	2.86	1.6477	33.9	10	-56.15			

19.05* = 10.00 + 9.05

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.16	-0.019	0.0098	-0.013	0.0011	8	0.028%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{t1}'	$K_{t0.7}'$
100	0.45	0.0022	0.110	-0.028	0.138	-0.047	-0.056
70	-0.17	-0.0036	0.25	0.17	0.075	-0.018	-0.026



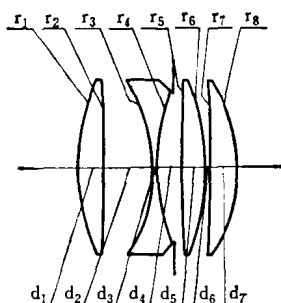
编号: 02-00-005

摄影物镜

E. F. L = 1

B. F. L = 0.90 ,

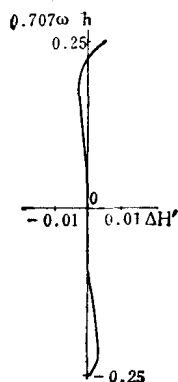
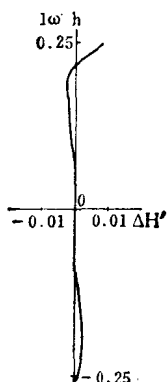
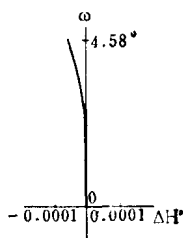
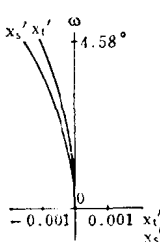
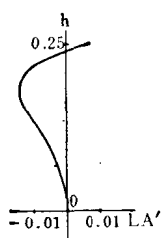
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	0.634	0.076	1.605	1.6183	5	9.236	0.069	1.605	1.6183
2	-8.388	0.150*			6	-0.745	0.016		
3	-0.470	0.012	1.617	1.6367	7	-15.394	0.086	1.516	1.5204
4	0.703	0.072			8	-0.471			

$$0.150^* = 0.050 + 0.100$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0046	-0.00034	0.000029	-0.00021	-0.000024	0.08	-0.062%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0072	-0.000051	-0.0010	-0.0015	0.000489	0.0033	-0.00057
70	-0.013	-0.000018	-0.00052	-0.00076	0.00024	0.0023	-0.00042



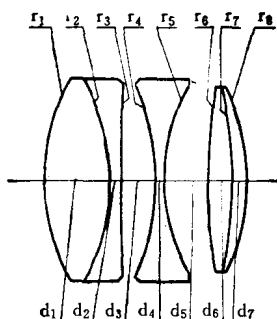
编号: 02-00-006

摄影物镜

E. F. L = 100

B. F. L = 80.72

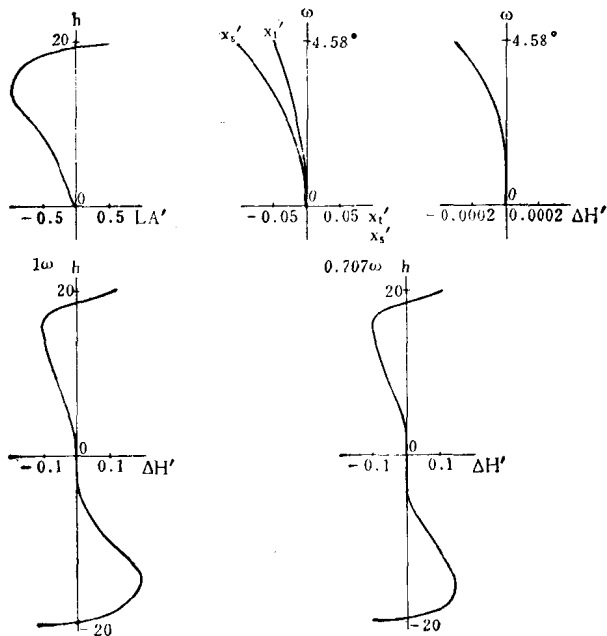
FNo. = 2.5

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	40.37	13.30	1.6139	56.4	5	38.07	9.03*		
2	-43.81	2.20	1.5490	46.1	6	104.50	4.80	1.5990	57.2
3	727.30	6.66			7	-89.47	3.30	1.5470	62.8
4	-50.10	2.00	1.6260	39.2	8	-41.58			

$$9.03^* = 4.50 + 4.53$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.24	0.0066	0.0022	-0.010	-0.00011	8	-0.0039%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.52	-0.00032	-0.047	-0.103	0.056	-0.023	0.017
70	-1.00	-0.00010	-0.023	-0.051	0.028	-0.023	0.012



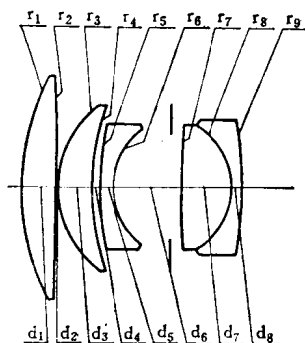
编号: 02-00-007

四组五片摄影物镜

E. F. L = 100

B. F. L = 47.91

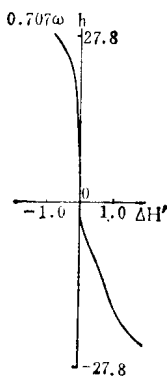
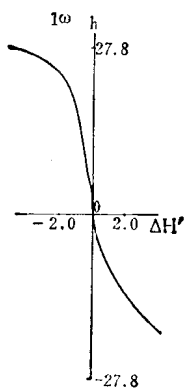
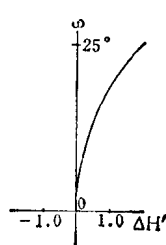
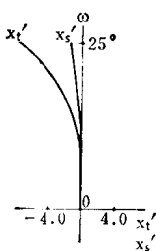
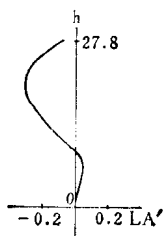
FNo. = 1.8

F. A. = $\pm 25^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	70.46	10.60	1.5885	61.2	6	21.89	20.60*		
2	-1960.00	0.40			7	236.18	15.10	1.6584	51.0
3	30.97	10.20	1.6694	47.3	8	-21.70	3.0	1.5718	53.1
4	73.83	2.85			9	-137.17			
5	127.83	4.10	1.7402	28.1					

20.60* = 12.00 + 8.60

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.26	0.18	-0.13	-0.31	1.08	42.44	5.5%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.083	2.33	-8.07	-1.73	-6.34		1.09
70	-0.32	0.68	-2.25	-1.02	-1.23	0.92	0.42



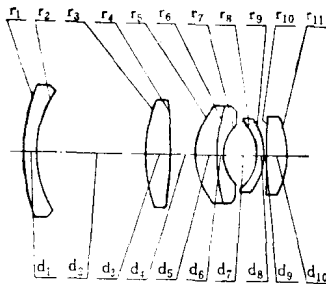
编号: 02-00-008

大 孔 径 摄 影 物 镜

E. F. L = 1.0

B. F. L = 0.7861

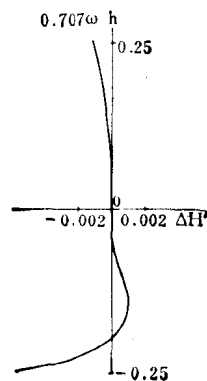
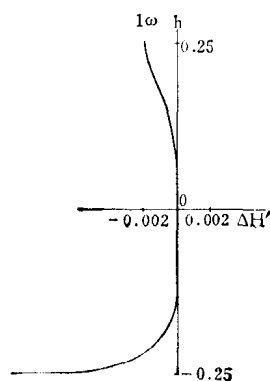
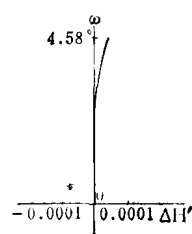
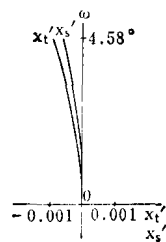
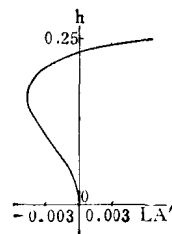
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_d	v	序号	r	d	n_d	v
1	1.4083	0.0782	1.62170	60.4	7	0.2971	0.2033*		
2	0.6857	0.7350			8	-0.2831	0.0547	1.75679	27.5
3	0.9128	0.1564	1.65867	50.7	9	-0.3630	0.0039		
4	-3.9156	0.1642			10	9.4762	0.1447	1.59105	61.2
5	0.4393	0.1681	1.69347	53.7	11	-0.5392			
6	1.3301	0.0391	1.75520	27.5					

$$0.2033^* = 0.1000 + 0.1033$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0023	0.000096	-0.000020	-0.000056	0.000017	0.08	0.043%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}^*	$K_{T0.7}^*$
100	0.0067	0.000034	-0.00095	-0.00061	-0.00034	-0.0058	-0.00046
70	-0.0048	0.000012	-0.00047	-0.00031	-0.00016	-0.0041	-0.00033



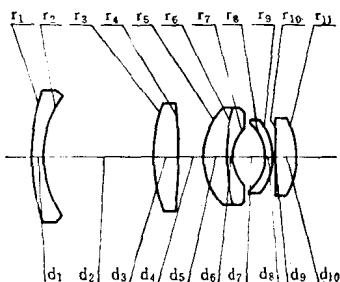
编号: 02-00-009

大 孔 径 摄 影 物 镜

E. F. L = 1

B. F. L = 0.7862

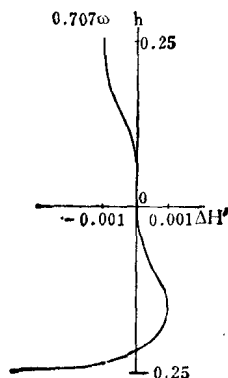
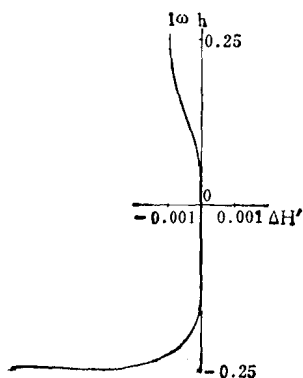
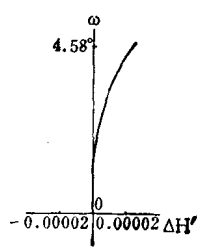
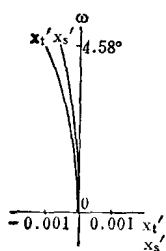
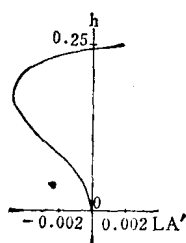
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_d	v	序号	r	d	n_d	v
1	1.2722	0.0788	1.62170	60.4	7	0.2796	0.2126*		
2	0.6861	0.7403			8	-0.2855	0.0551	1.75679	27.5
3	0.8645	0.1575	1.65867	50.7	9	-0.3656	0.0039		
4	-4.8097	0.0709			10	34.6191	0.1457	1.59105	61.2
5	0.4244	0.1693	1.69347	53.7	11	-0.5209			
6	0.9940	0.0394	1.75520	27.5					

$$0.2126^* = 0.1000 + 0.1126$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0023	0.00010	-0.000023	-0.000049	0.000012	0.08	0.03%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s^*	$x_t' - x_s^*$	K_{T1}'	$K_{T0.7}'$
100	0.0018	0.000024	-0.00096	-0.00058	-0.00038	-0.0035	-0.00017
70	-0.0051	0.000008	-0.00047	-0.00029	-0.00018	-0.0025	-0.00012



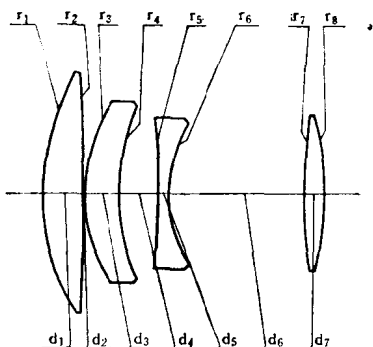
编号: 02-00-010

摄影物镜

E. F. L = 100

B. F. L = 58.15

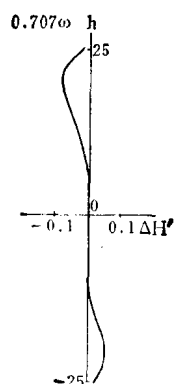
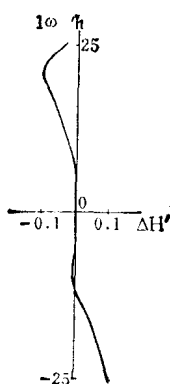
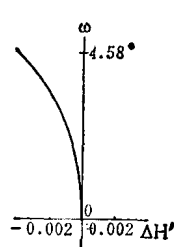
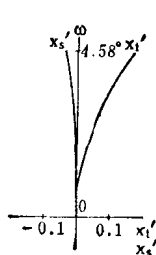
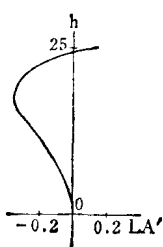
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	52.000	9.000	1.56384	1.57532	5	-260.000	2.000	1.64769	1.67249
2	-450.000	0.000			6	28.840	30.000*		
3	36.000	8.000	1.56384	1.57532	7	110.000	5.000	1.56384	1.57532
4	48.539	8.605			8	-61.496			

30.000* = 15.000 + 15.000

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.15	-0.010	0.013	-0.017	-0.0020	8	-0.050%
h 或 ω %	LA'	$\Delta H'$	x'_1	x'_s	$x'_1 - x'_s$	K'_{f1}	$K'_{f0.7}$
100	0.097	-0.0040	0.170	-0.032	0.202	0.026	-0.013
70	-0.37	-0.0014	0.091	-0.016	0.107	-0.0061	-0.016



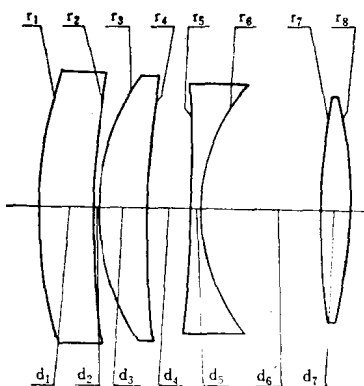
编号: 02-00-011

消球差、色差和象散的摄影物镜

E. F. L = 100

B. F. L = 74.1

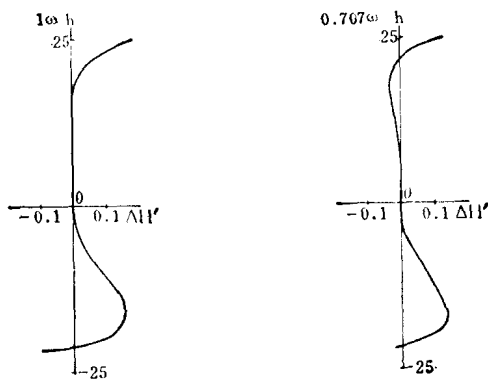
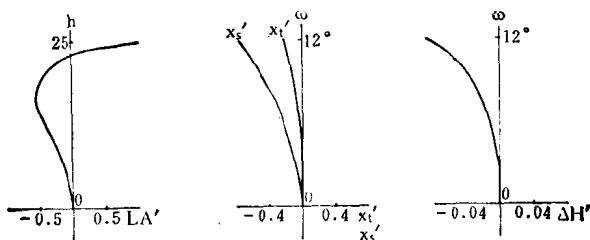
FNo. = 2

F. A. = $\pm 12^\circ$ 

序号	r	d	n_D	v	序号	r	d	n_D	v
1	80.2	9.3	1.6130	58.5	5	-320.7	2.0	1.6489	33.8
2	142.8	0.5			6	33.0	20.0*	1.6130	58.5
3	38.1	8.4	1.6130	58.5	7	114.2	4.6	1.6130	58.5
4	173.1	7.1			8	-77.3			

$$20.0^* = 12.0 + 8.0$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1ω)
	-0.25	0.051	0.033	-0.13	-0.027	22.08	-0.38%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	1.00	-0.084	-0.20	-0.76	0.56	-0.54	0.080
70	-0.58	-0.025	-0.11	-0.40	0.29	-0.32	0.056



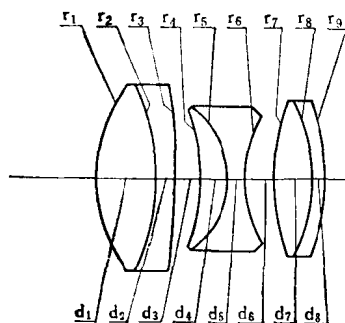
编号: 02-00-012

大 孔 径 物 镜

E. F. L = 100

B. F. L = 60.10

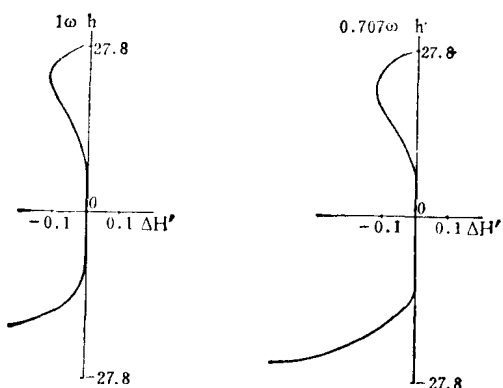
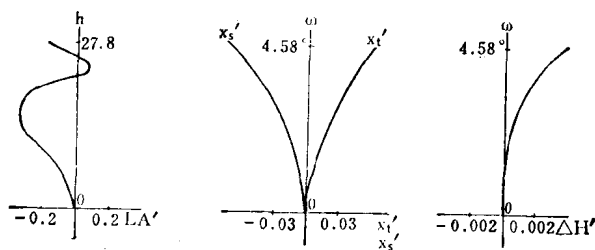
FNo. = 1.8

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	48.8	17.98	1.624	58.2	6	37.1	8.99*		
2	-69.3	5.72	1.622	36.1	7	81.7	11.44	1.624	58.2
3	-208.4	7.85			8	-47.8	4.09	1.541	47.2
4	-53.7	8.17	1.624	58.2	9	-63.2			
5	-27.6	4.90	1.567	42.8					

$$8.99^* = 5.00 + 3.99$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.32	0.0084	0.010	-0.022	0.0019	8	0.045%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}$
100	-0.19	0.0036	0.063	-0.074	0.137		-0.17
70	-0.33	0.0012	0.031	-0.037	0.068		-0.11



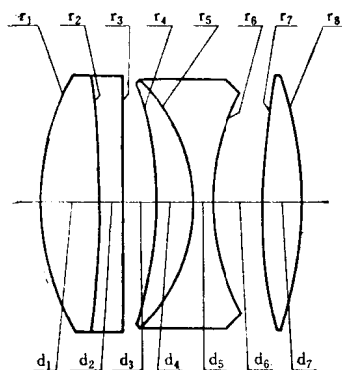
编号: 02-00-013

大 孔 径 物 镜

E. F. L = 100

B. F. L = 74.92

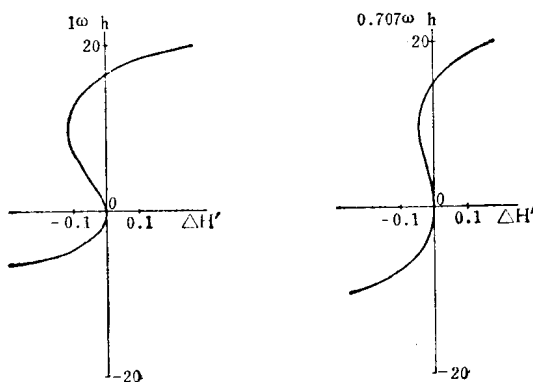
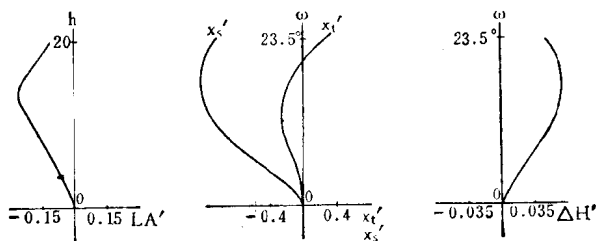
FNo. = 2.5

F. A. = $\pm 23.5^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	43.3	9.60	1.624	58.2	5	-27.8	3.20	1.567	42.8
2	-160.0	4.00	1.622	36.1	6	38.0	8.16*		
3	-560.0	5.84			7	95.2	6.40	1.624	58.2
4	-61.5	6.20	1.624	44.8	8	-65.4			

$$8.16^* = 4.50 + 3.66$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.036	0.018	0.044	-0.28	0.13	43.47	0.13%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s	$x'_t - x_s$	K_{T1}	$K'_{T0.7}$
100	-0.12	0.058	0.26	-1.15	1.41		-1.01
70	-0.27	0.074	-0.26	-1.16	0.90		-0.34



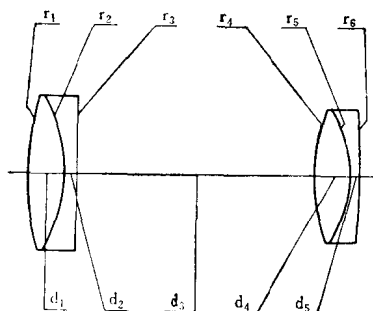
编号: 02-00-014

放 映 物 镜

E. F. L = 100

B. F. L = 38.4

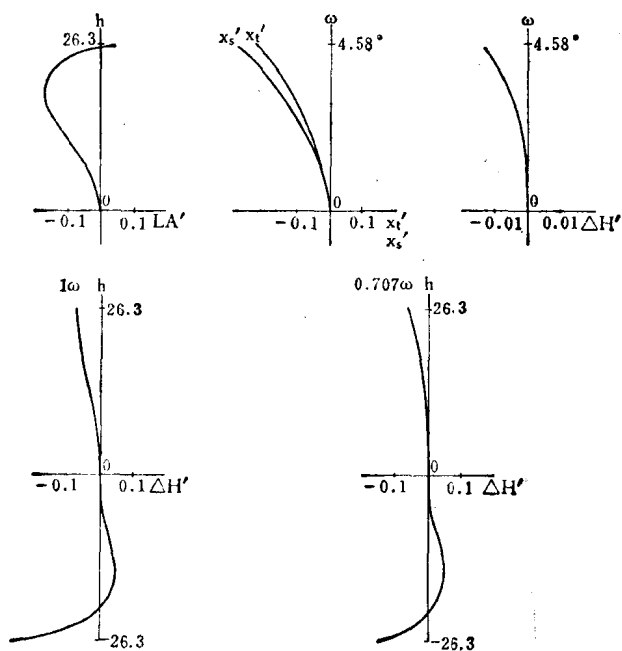
FNo. = 1.9

F. A. = $\pm 4.58^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	90.00	12.5	1.5799	53.8	4	68.00	11.5	1.5904	61.2
2	-50.00	4.0	1.6130	36.9	5	-42.00	3.0	1.6489	33.8
3	∞	79.5*			6	-386.92			

$$79.5^* = 30.0 + 49.5$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1°)
	-0.085	0.012	0.0033	-0.043	-0.0073	8	-0.17%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s	$x_t - x_s$	K_{T1}	$K_{T0.7}$
100	0.036	-0.014	-0.226	-0.285	0.059	-0.17	-0.0076
70	-0.18	-0.0050	-0.116	-0.143	0.0268	-0.10	-0.0023



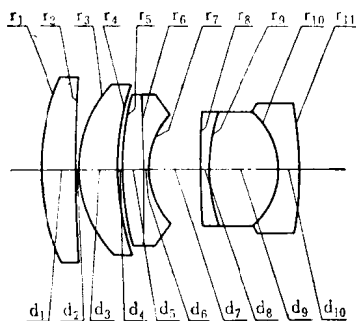
编号: 02-00-015

摄影物镜

E. F. L = 100

B. F. L = 44.81

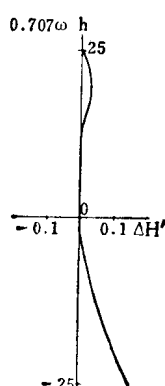
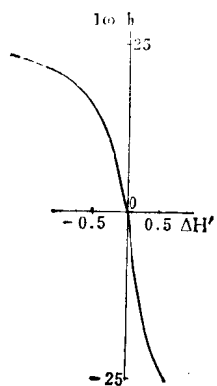
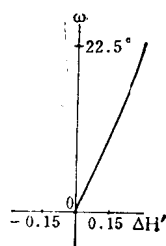
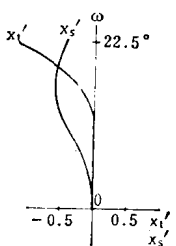
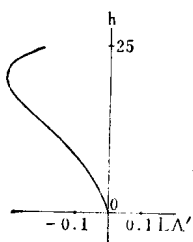
FNo. = 2

F. A. = $\pm 22.5^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	69.47	10.60	1.6221	58.1	7	24.40	15.60*		
2	450.51	0.10			8	788.13	2.97	1.5112	50.9
3	37.25	12.17	1.6706	47.2	9	53.75	20.93	1.7016	41.2
4	84.49	1.00			10	-22.66	5.92	1.6429	47.8
5	88.84	6.92	1.4879	69.9	11	-106.07			
6	-654.79	1.76	1.7391	28.3					

15.60* = 10.00 + 5.60

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.11	0.054	0.083	-0.30	0.41	42.29	0.72%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.21	0.30	-1.15	-0.45	-0.70	-1.18	-0.17
70	-0.30	0.24	-0.12	-0.60	0.48	0.63	0.057

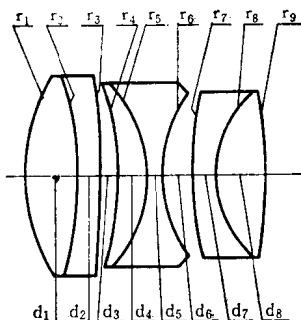


编号: 02-00-016

大 孔 径 物 镜

E. F. L = 100

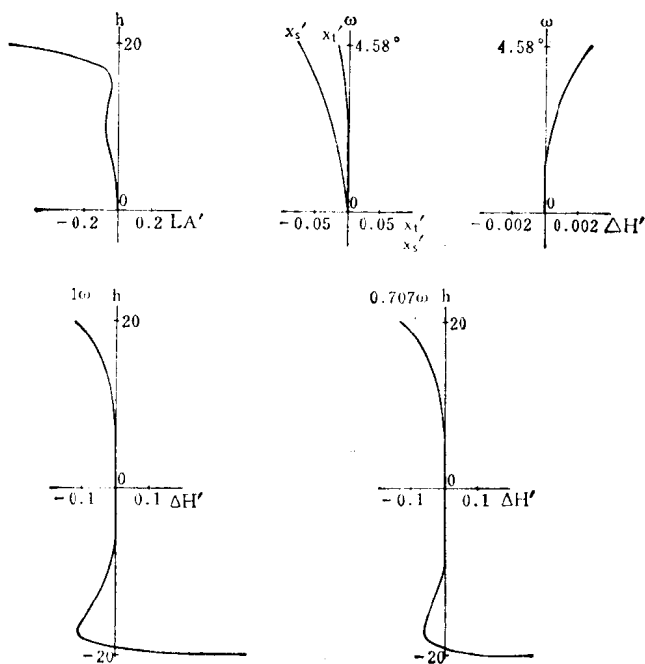
B. F. L = 67.81

FN₀ = 2.5F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	37.04	11.00	1.6233	58.1	6	28.96	5.62*		
2	-67.36	4.22	1.6122	37.3	7	69.82	4.68	1.5896	53.0
3	-354.50	3.60			8	22.86	10.30	1.6233	58.1
4	-61.12	5.62	1.6741	32.6	9	-88.28			
5	-27.56	3.74	1.58158	49.3					

$$5.62^* = 3.00 + 2.62$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1ω)
	-0.046	-0.0024	0.0027	-0.0094	0.0010	8	0.033%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K'_{F1}	$K'_{F0.7}$
100	-0.72	0.0026	-0.012	-0.082	0.070	0.13	-0.060
70	-0.078	0.00096	-0.0069	-0.041	0.0341	0.065	-0.040



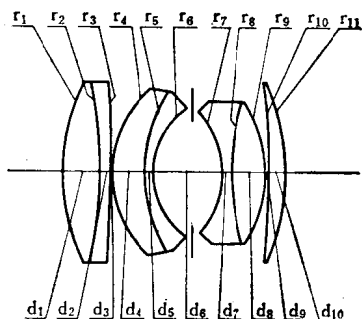
编号: 02-00-017

摄影物镜

E. F. L = 1

B. F. L = 0.684

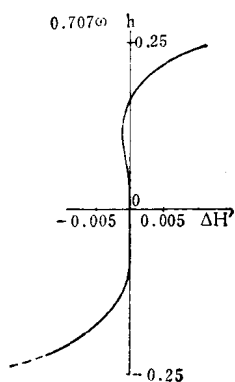
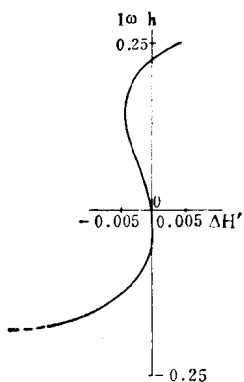
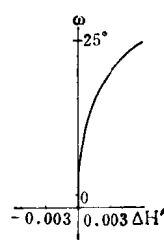
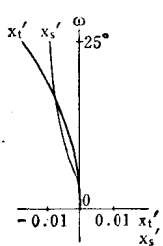
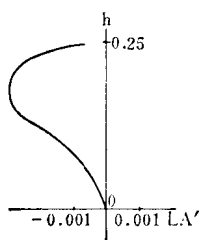
FNo. = 2

F. A. = $\pm 25^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.6886	0.108	1.5338	55.4	7	-0.2823	0.030	1.5673	42.8
2	-1.2296	0.030	1.6727	32.2	8	0.8853	0.108	1.6204	60.3
3	-19.5650	0.002			9	-0.3787	0.002		
4	0.3325	0.098	1.6700	47.2	10	-19.5650	0.049	1.6074	56.7
5	0.4623	0.030	1.6645	35.9	11	-0.6709			
6	0.2351	0.207*							

$$0.207^* = 0.116 + 0.091$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0012	0.000092	0.00039	0.0031	0.0022	0.46	1.27%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.00073	0.0059	-0.019	-0.010	-0.0088	-0.036	-0.0099
70	-0.0030	0.0018	-0.0090	-0.0090	-0.00005	-0.0085	-0.0026



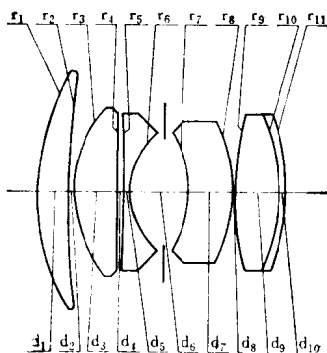
编号: 02-00-018

摄影物镜

E. F. L = 3

B. F. L = 1.883

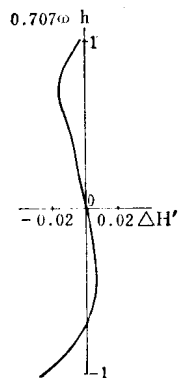
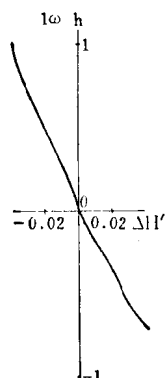
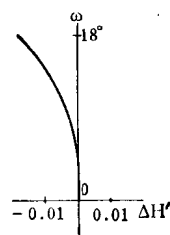
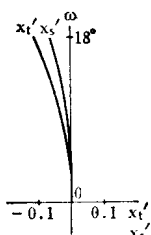
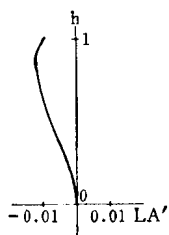
FNo. = 1.35

F. A. = $\pm 18^\circ$ 

序号	r	d	n_D	v	序号	r	d	n_D	v
1	2.616	0.340	1.6230	57.1	7	-1.214	0.492	1.6480	33.8
2	9.712	0.0486			8	-1.700	0.0061		
3	1.426	0.492	1.6230	57.1	9	3.398	0.492	1.6106	55.6
4	∞	0.0486			10	-2.069	0.067	1.6480	46.5
5	-19.420	0.067	1.5490	45.7	11	-2.461			
6	0.886	0.6430*							

$$0.6430^* = 0.4200 + 0.2230$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0070	0.000074	-0.0038	-0.012	-0.0079	0.97	-1.82%
h 或 ω	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.010	-0.017	-0.135	-0.068	-0.067		0.0013
70	-0.011	-0.0056	-0.060	-0.036	-0.024	-0.013	-0.0061



编号: 02-00-019

消球差、色差和象散的大孔径物镜

E. F. L = 100

B. F. L = 45.133

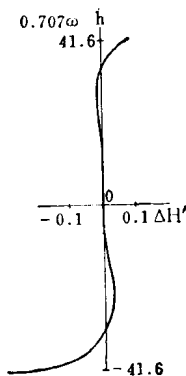
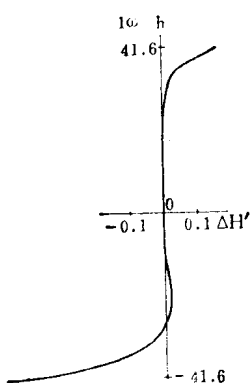
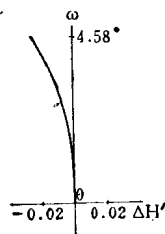
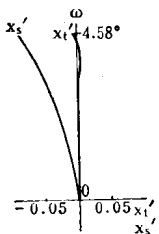
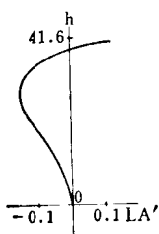
FNo. = 1.2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	96.980	12.55	1.61505	59.4	8	-63.893	0.63		
2	456.380	1.26			9	96.980	9.13	1.62020	56.2
3	54.480	23.96	1.61505	59.4	10	∞	0.63		
4	∞	3.99	1.56840	46.7	11	142.280	2.85	1.62020	36.5
5	33.316	25.10*			12	96.980	23.96	1.64230	44.8
6	-46.208	5.36	1.65250	56.2	13	-310.340			
7	63.893	26.24	1.62020	33.4					

25.10* = 18.00 + 7.10

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	III	QP (1 ω)
	-0.21	0.024	0.016	-0.049	-0.021	8	-0.32%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{T1}	$K_{T0.7}$
100	0.12	-0.026	-0.00018	-0.092	0.092	-0.18	0.0054
70	-0.16	-0.0092	0.00064	-0.046	0.047	-0.11	0.0067



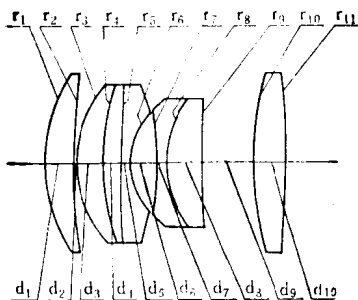
编号: 02-00-020

摄影物镜

E. F. L = 100

B. F. L = 41.3

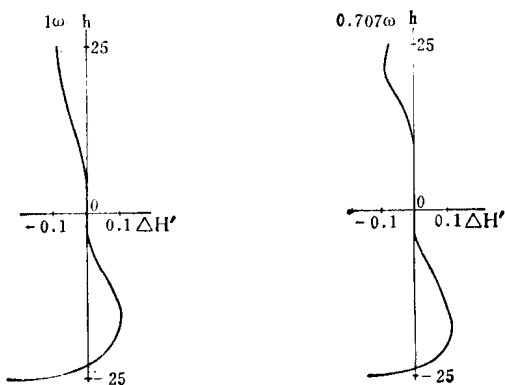
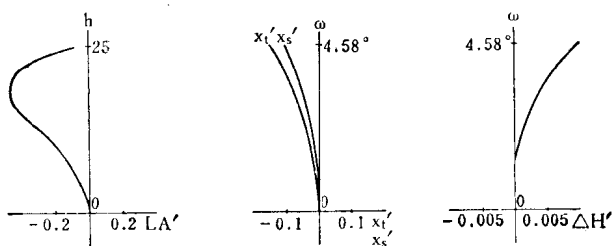
FNo. = 2

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	51.8	8.0	1.6203	60.4	7	-298.6	3.9	1.5017	56.5
2	179.3	0.6			8	30.2	10.8	1.6716	47.2
3	34.0	8.9	1.6716	47.2	9	285.9	15.6*		
4	76.4	5.0	1.5163	64.0	10	114.4	9.7	1.6716	47.2
5	707.3	2.8	1.6890	31.0	11	-297.0			
6	22.3	7.2							

$$15.6^* = 8.0 + 7.6$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.18	0.026	-0.0035	-0.010	0.0048	8	0.11%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	h_{T1}^0	$h_{T0.7}^0$
100	-0.10	0.0092	-0.15	-0.10	-0.044	-0.17	0.023
70	-0.48	0.0033	-0.080	-0.055	-0.025	-0.10	0.020



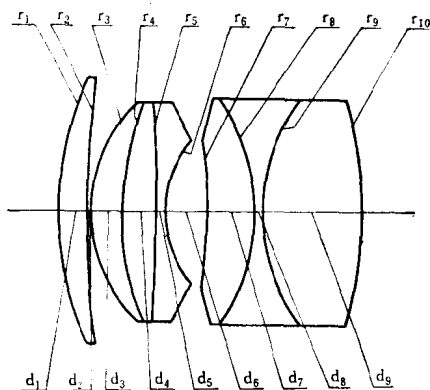
编号: 02-00-021

摄影物镜

E. F. L = 100

B. F. L = 54.53

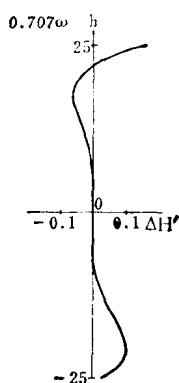
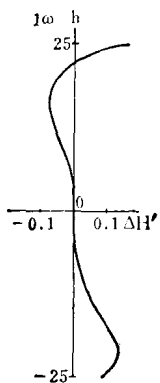
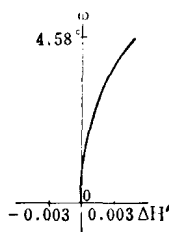
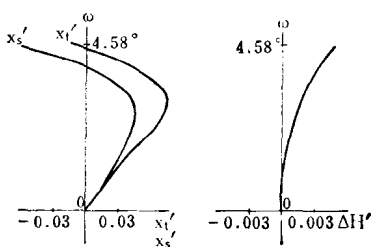
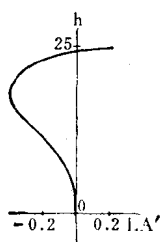
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	67.54	6.79	1.6204	60.3	6	24.08	9.44*		
2	380.08	0.38			7	-128.76	10.76	1.6204	60.3
3	34.01	7.17	1.7016	41.2	8	-44.37	1.13	1.5174	52.4
4	63.22	7.55	1.5400	59.6	9	41.14	22.46	1.6689	48.8
5	-481.81	1.89	1.6883	31.2	10	-89.32			

$$9.44^* = 7.50 + 1.94$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.20	-0.0062	0.0029	-0.010	0.0023	8	0.059%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{Tc.7}$
100	0.21	0.0047	-0.014	-0.060	0.046	0.12	0.011
70	-0.42	0.0018	0.069	0.046	0.023	0.085	0.0068



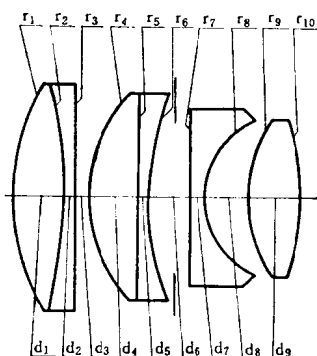
编号: 02-00-022

用于摄影或放映的物镜

E. F. L = 100

B. F. L = 35.23

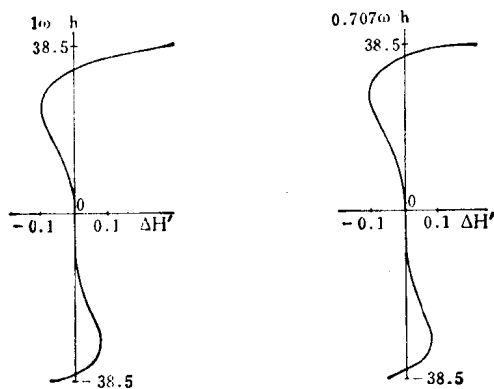
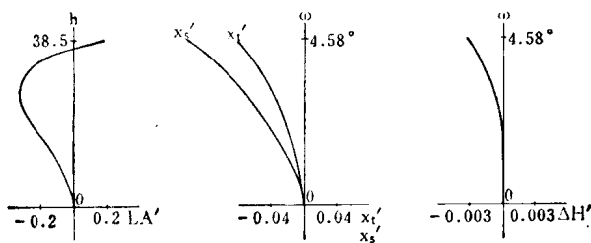
FNo. = 1.3

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	74.34	16.64	1.5338	55.4	6	92.96	13.90*		
2	-158.04	3.72	1.6545	33.8	7	∞	4.60	1.6080	46.2
3	∞	4.60			8	28.08	14.68		
4	50.40	16.64	1.6204	60.3	9	45.50	16.64	1.6074	56.7
5	-929.63	3.72	1.7283	28.3	10	-96.19			

$$13.90^* = 8.40 + 5.50$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.34	-0.025	0.011	-0.058	-0.00090	8	-0.040%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.21	-0.0032	-0.085	-0.154	0.069	0.11	-0.015
70	-0.34	-0.00077	-0.040	-0.077	0.037	0.081	-0.011



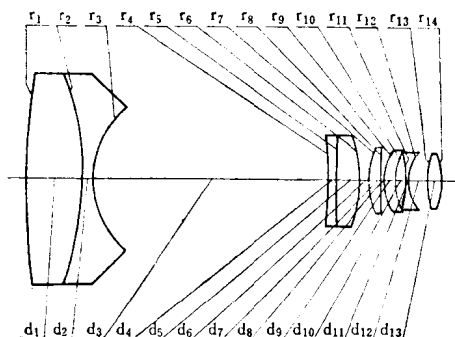
编号: 02-00-023

六组元大孔径物镜

E.F.L = 1

B.F.L = 1.316

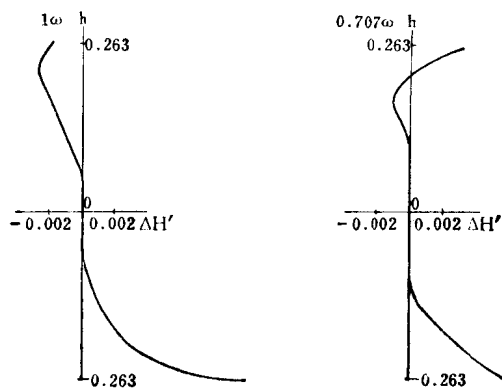
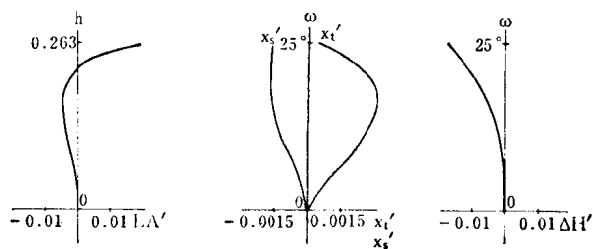
FNo. = 1.9

F.A. = $\pm 25^\circ$ 

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	13.320	0.925	1.6727	32.2	8	-22.940	0.004		
2	-5.027	0.182	1.5101	63.4	9	0.840	0.217	1.6204	60.3
3	1.606	3.880			10	1.077	0.148		
4	-8.158	0.182	1.6727	32.2	11	-2.800	0.062	1.6990	30.1
5	26.990	0.367	1.5101	63.4	12	0.722	0.298*		
6	-2.595	0.147			13	2.010	0.235	1.6385	55.5
7	1.406	0.220	1.6204	60.3	14	-1.101			

$$0.298^* = 0.150 + 0.148$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0031	-0.00017	0.0010	-0.0016	-0.0094	0.46	-3.66%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.018	-0.017	0.0006	-0.0016	0.0022	0.0038	-0.000034
70	-0.0050	-0.0066	0.0034	-0.0017	0.0051	0.0044	0.00033



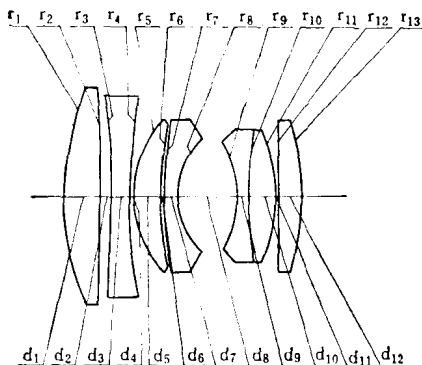
编号: 02-00-024

摄影物镜

E. F. L = 100

B. F. L = 61.47

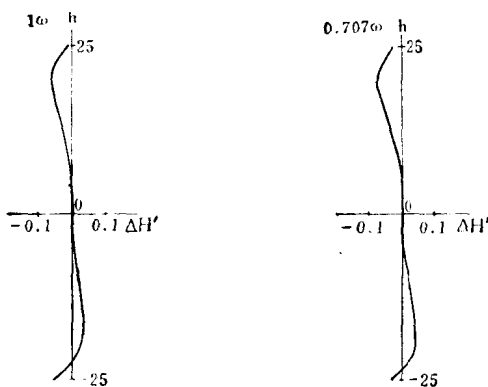
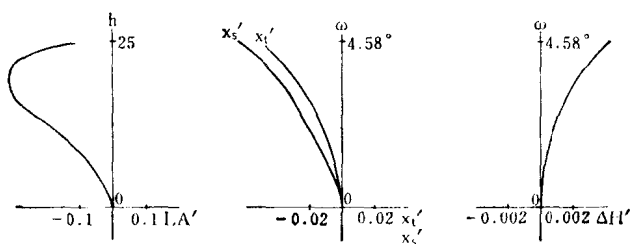
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	82.16	10.400	1.69100	54.9	8	24.76	18.160*		
2	-440.92	2.900			9	-36.12	3.770	1.58144	40.8
3	-364.46	6.870	1.62237	36.1	10	132.85	8.100	1.69100	54.9
4	209.11	0.192			11	-54.35	0.192		
5	33.68	8.480	1.69100	54.9	12	744.71	6.940	1.69100	54.9
6	109.64	0.515			13	-78.85			
7	145.08	4.060	1.60140	38.3					

$$18.160^* = 9.000 + 9.160$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	Hl	QP (1 ω)
	-0.12	-0.0034	0.00084	-0.0088	0.0021	8	0.053%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s'	$x_t' - x_s'$	K'_{T1}	$K_{T0.7}$
100	-0.11	0.0042	-0.048	-0.062	0.014	-0.048	-0.016
70	-0.30	0.0015	-0.024	-0.031	0.0067	-0.034	-0.011



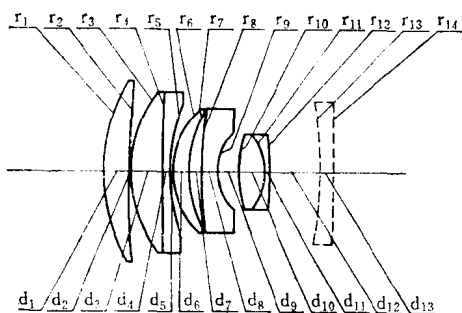
编号: 02-00-025

x 光屏图像成像用的物镜

E. F. L = 100

B. F. L = -7.4

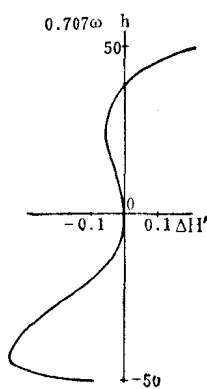
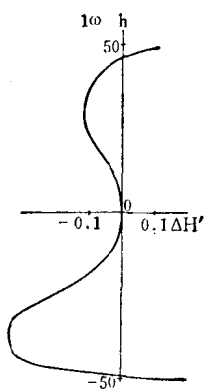
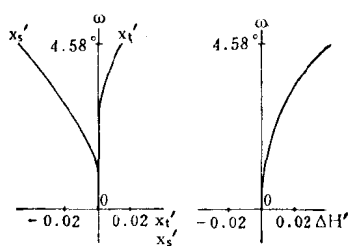
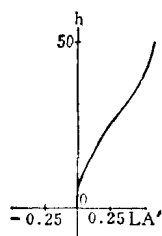
FNo. = 1

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n_D	n_F	序号	r	d	n_D	n_F
1	103.2	15.80	1.62470	1.62960	8	329.1	8.98	1.74727	1.75980
2	748.2	0.30			9	32.4	12.47*		
3	79.4	18.72	1.69353	1.69928	10	75.3	16.19	1.72637	1.73524
4	1401.6	5.37	1.74727	1.75980	11	-35.7	2.28	1.63084	1.63912
5	120.7	0.30			12	-248.2	31.24		
6	49.3	10.89	1.69353	1.69928	13	-246.1	7.67	1.51824	1.52191
7	76.7	7.67			14	∞			

12.47* = 7.00 + 5.47

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.45	-0.22	0.014	-0.041	0.044	8	0.55%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.57	0.044	0.014	-0.049	0.063	0.13	-0.23
70	0.42	0.015	0.0020	-0.026	0.028	0.065	-0.16



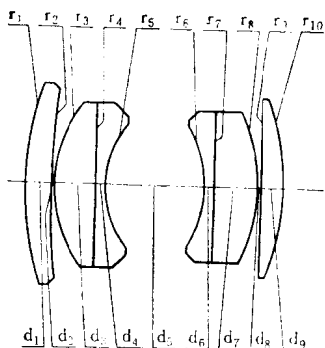
编号: 02-00-026

摄影或电影摄影用的多组元替换透镜系统

E. F. L = 0.616

B. F. L = 0.45

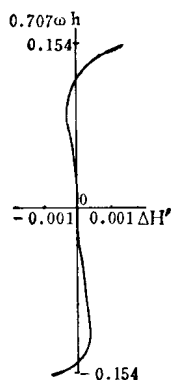
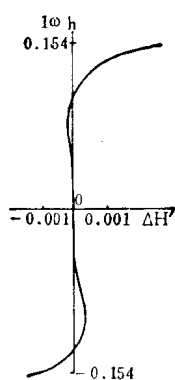
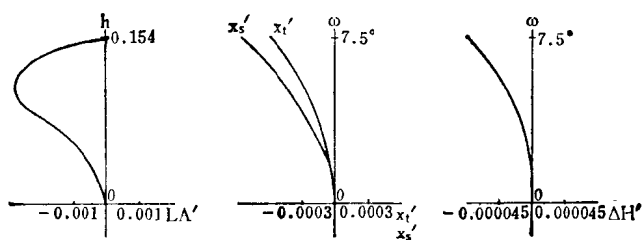
FNo. = 2

F. A. = $\pm 7.5^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.4656	0.0405	1.6667	48.4	6	-0.1821	0.0150	1.6477	33.9
2	1.3516	0.0013			7	2.8524	0.0647	1.6910	54.8
3	0.2014	0.0641	1.6584	50.8	8	-0.2582	0.0007		
4	∞	0.0131	1.6513	38.5	9	∞	0.0353	1.6700	47.2
5	0.1495	0.1477*			10	-0.3919			

$$0.1477^* = 0.0628 + 0.0849$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HJ	QP (1 ω)
	-0.0011	-0.0000074	0.000021	-0.00013	-0.000044	0.08	-0.11%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.000006	-0.000092	-0.00058	-0.00088	0.00030	0.00063	0.00011
70	-0.0028	-0.000032	-0.00029	-0.00045	0.00016	0.00039	0.000075



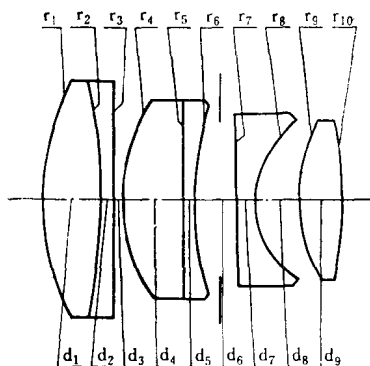
编号: 02-00-027

用于摄影或放映的物镜

E. F. L = 100

B. F. L = 34.88

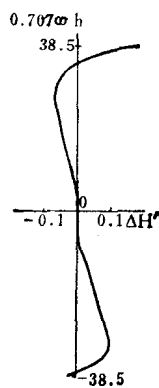
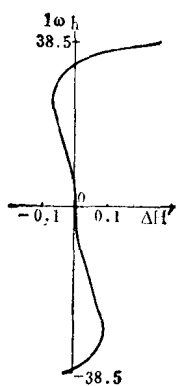
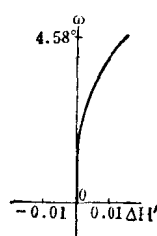
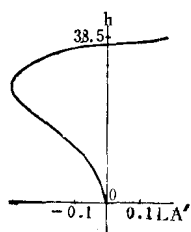
FNo. = 1.3

F. A. = $\pm 4.58'^{**}$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	78.90	17.76	1.5338	55.4	6	98.64	12.82*		
2	-167.68	3.94	1.7283	28.3	7	∞	5.92	1.6073	49.2
3	-1183.62	2.96			8	28.60	12.82		
4	50.80	18.74	1.6230	58.1	9	47.34	13.32	1.6074	56.7
5	-986.34	3.94	1.7283	28.3	10	-108.50			

$$12.82^* = 7.82 + 5.00$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.30	-0.012	0.0071	-0.055	0.011	8	0.17%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.18	0.014	-0.10	-0.15	0.048	0.11	0.0042
70	-0.30	0.0053	-0.055	-0.079	0.024	0.071	0.00032



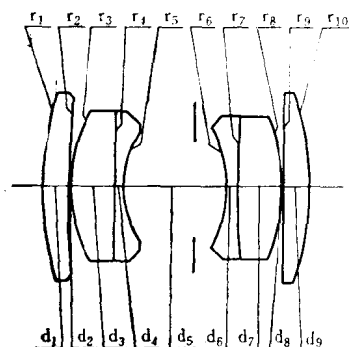
编号: 02-00-028

多组元替换透镜系统

E. F. L = 1.293

B. F. L = 0.946

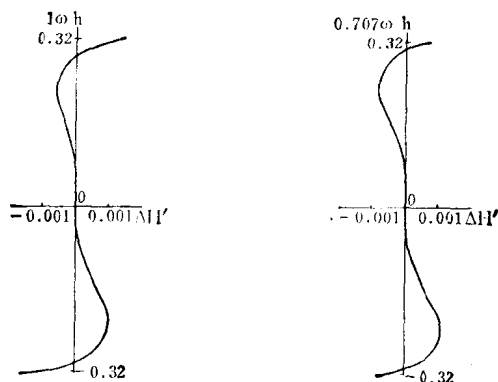
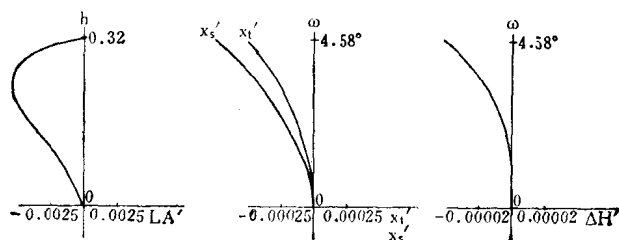
FNo. = 2

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.9758	0.0849	1.6667	48.4	6	-0.3816	0.0315	1.6477	33.9
2	2.8326	0.0027			7	5.9778	0.1355	1.6910	54.8
3	0.4222	0.1342	1.6584	50.8	8	-0.5411	0.0014		
4	∞	0.0274	1.6513	38.5	9	∞	0.0740	1.6700	47.2
5	0.3134	0.3096*			10	-0.8213			

$$0.3096^* = 0.2137 + 0.0959$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0023	0.000086	0.000013	-0.00010	-0.000019	0.10	-0.039%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	$K'_{\tau 1}$	$K'_{\tau 0.7}$
100	-0.000067	-0.000040	-0.00055	-0.00076	0.00021	-0.00024	0.00014
70	-0.0057	-0.000014	-0.00027	-0.00038	0.00011	-0.000065	0.00012



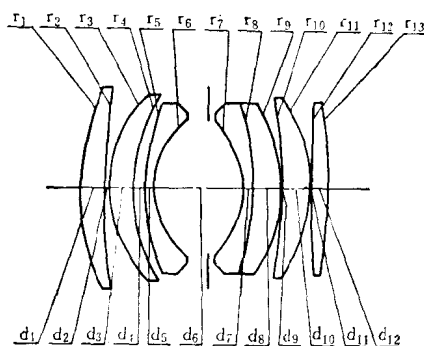
编号: 02-00-029

短的大孔径摄影物镜

E. F. L = 1

B. F. L = 0.741

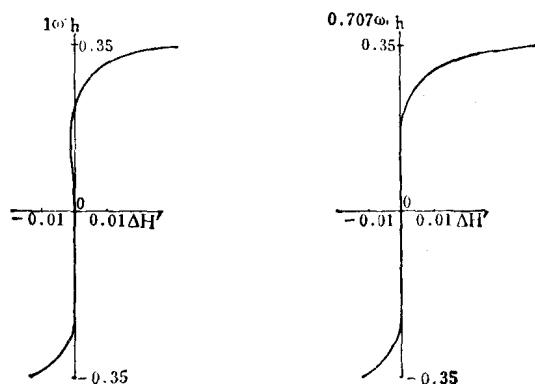
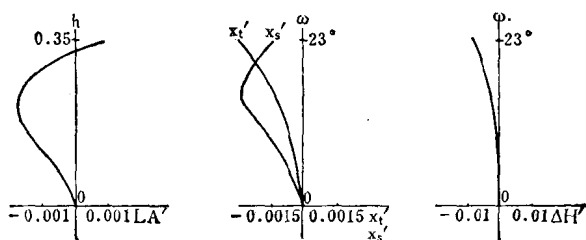
FNo. = 1.4

F. A. = $\pm 23^\circ$ 

序号	r	d	n	v	序号	r	d	n	v
1	0.78185	0.08861	1.8348	42.8	8	-0.99807	0.09981	1.8061	40.8
2	2.59845	0.00232			9	-0.52703	0.00193		
3	0.42498	0.08784	1.8061	40.8	10	-1.50994	0.09691	1.713	54.0
4	0.60180	0.03436			11	-0.50290	0.00232		
5	0.69415	0.02606	1.7847	26.22	12	3.38224	0.05174	1.713	54.0
6	0.28654	0.30888			13	-1.86805			
7	-0.31581	0.02645	1.7847	25.7					

$$0.30888 = 0.15888 + 0.15000$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1°)
	-0.0025	-0.000050	0.00066	-0.0029	-0.0052	0.42	-1.95%
h 或 $\omega\%$	LA'	$\Delta H'$	x_t'	x_s	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00093	-0.0082	-0.0030	-0.0015	-0.0015	0.0087	0.00053
70	-0.0016	-0.0029	-0.0015	-0.0030	0.0015	0.013	0.0010



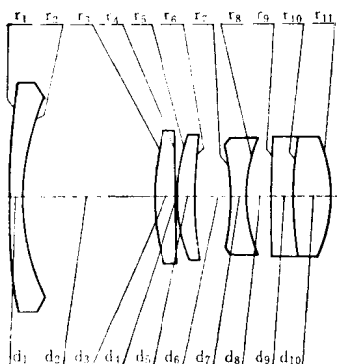
编号: 02-00-030

摄影物镜

E. F. L = 1

B. F. L = 1.0095

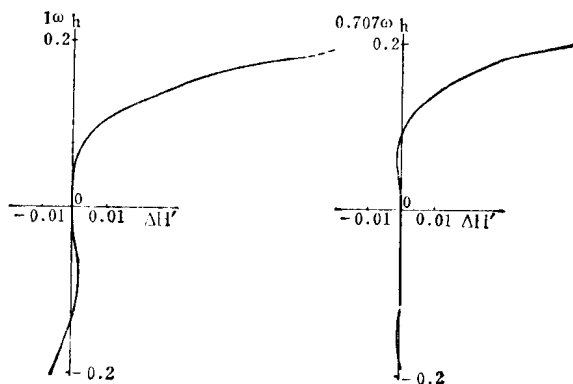
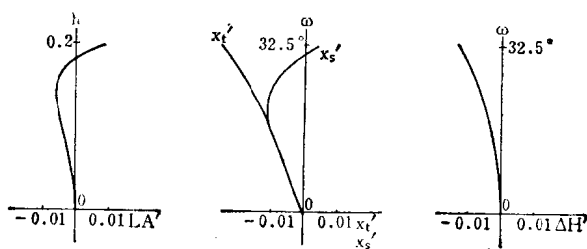
FNo. = 2.5

F. A. = $\pm 32.5^\circ$ 

序号	r	d	n	v	序号	r	d	n	v
1	2.9000	0.040	1.51821	65.2	7	-0.9400	0.055	1.68893	31.1
2	0.7890	0.440			8	0.5230	0.082		
3	0.9300	0.070	1.74400	44.7	9	3.8500	0.070	1.66680	31.1
4	-5.9000	0.002			10	1.4000	0.120	1.69100	54.9
5	0.6135	0.058	1.69347	53.5	11	-0.5290			
6	1.4000	0.113*							

$$0.113^* = 0.060 + 0.053$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0015	-0.0010	-0.00019	-0.0029	-0.0061	0.62	-2.34%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s'	$x_t' - x_s'$	K_T'	$F_{T0.7}$
100	0.0084	-0.014	-0.0250	0.0034	-0.0284	-0.19	0.013
70	-0.0058	-0.0057	-0.016	-0.012	-0.0034	0.031	0.0038



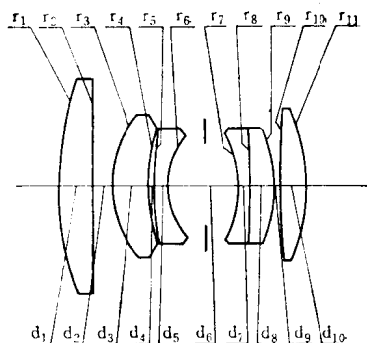
编号: 02-00-031

大 孔 径 物 镜

E. F. L = 1

B. F. L = 0.606

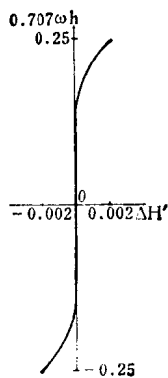
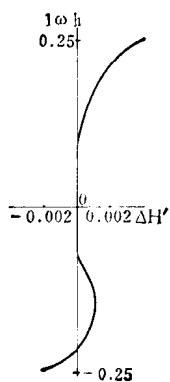
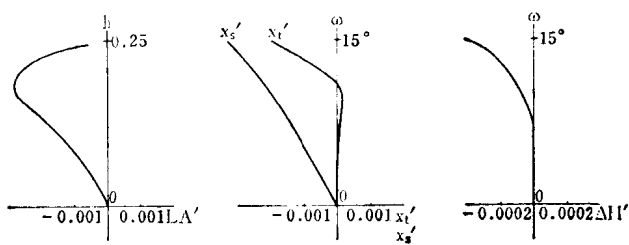
FNo. = 2

F. A. = $\pm 15^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.96154	0.1017	1.62554	57.9	7	-0.32173	0.0321	1.65221	33.6
2	-11.85620	0.0569			8	-2.88460	0.0769	1.66151	50.6
3	0.32692	0.1119	1.62287	60.1	9	-0.43454	0.0100		
4	0.64520	0.0125			10	1.92310	0.0769	1.66151	50.6
5	1.10960	0.0467	1.65221	33.6	11	-0.69000			
6	0.25115	0.2115*							

$$0.2115^* = 0.1000 + 0.1115$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HJ	QP (1 ω)
	-0.0011	-0.000036	0.00046	-0.0011	-0.000086	0.265	-0.16%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.00062	-0.00043	-0.0020	-0.0034	0.0014	0.0010	0.00068
70	-0.0028	-0.00010	0.00022	-0.0022	0.0024	-0.00053	-0.000016



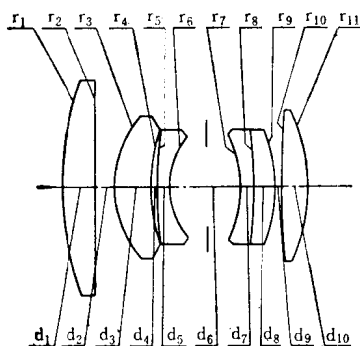
编号: 02-00-032

大 孔 径 物 镜

E. F. L = 1

B. F. L = 0.6196

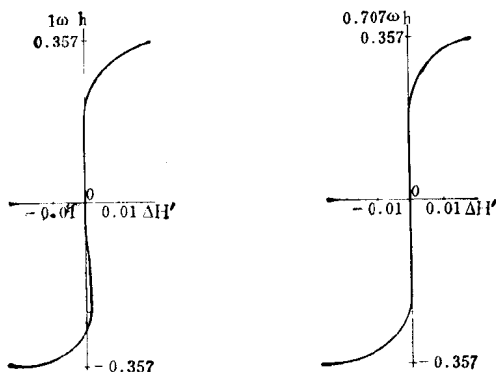
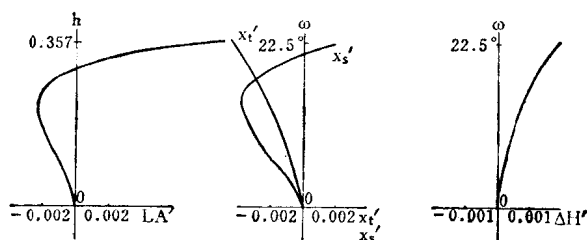
FNo. = 1.4

F. A. = $\pm 22.5^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.96154	0.1017	1.72056	47.7	7	-0.34620	0.0321	1.76846	26.8
2	10.69560	0.0569			8	-0.67310	0.0769	1.78990	48.0
3	0.41770	0.1119	1.78990	48.0	9	-0.44880	0.0100		
4	0.84270	0.0200			10	2.91060	0.0846	1.78990	48.0
5	1.30770	0.0467	1.76846	26.8	11	-0.81900	0.6188		
6	0.30370	0.2115*							

0.2115* = 0.1000 + 0.1115

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0032	-0.00023	0.00086	-0.0043	0.0021	0.41	0.44%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K_{T0.7}$
100	0.0092	0.0018	-0.0056	0.0018	-0.0074	-0.00058	0.0016
70	-0.0022	0.00087	-0.0027	-0.0039	0.0012	-0.0034	0.00049



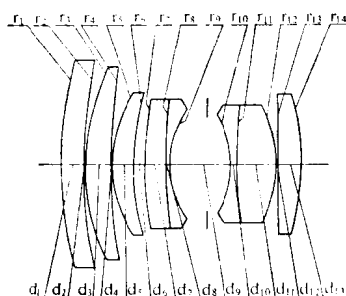
编号: 02-00-033

扩展的高斯型大孔径物镜

E. F. L = 1

B. F. L = 0.7114

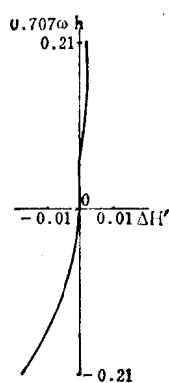
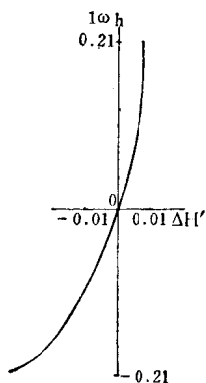
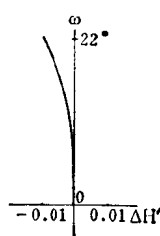
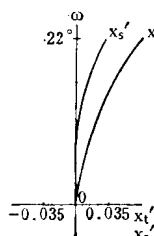
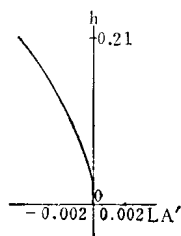
FNo. = 2.3

F A. = $\pm 22^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	1.300	0.0700	1.515		8	3.000	0.0150	1.805	
2	1.700	0.0010			9	0.300	0.1900*		
3	0.700	0.0800	1.700		10	-0.280	0.0200	1.630	
4	3.000	0.0010			11	1.700	0.1200	1.700	
5	0.400	0.0700	1.630		12	-0.400	0.0015		
6	0.750	0.0350			13	3.950	0.0730	1.744	
7	1.300	0.0630	1.770		14	-0.735			

$$0.1900^* = 0.1000 + 0.0900$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.00051	-0.0013	-0.0024	-0.0010	0.0032	0.399	-2.55%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.0044	-0.010	0.071	0.030	0.041	-0.011	-0.0049
70	-0.0025	-0.0029	0.035	0.010	0.024	-0.0080	-0.0036



编号: 02-00-034

大 孔 径 物 镜

E. F. L = 100

B. F. L = 68.16

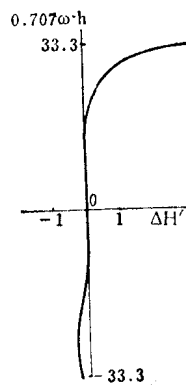
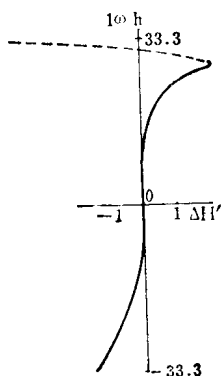
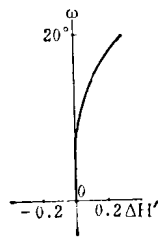
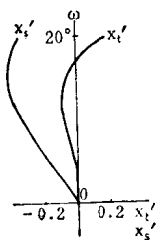
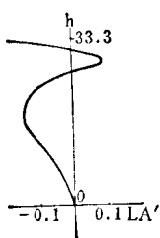
FNo. = 1.5

F. A. = $\pm 20^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	169.00	8.01	1.4978	67.1	8	35.64	14.31*		
2	67.97	33.20			9	337.90	11.06	1.6779	55.5
3	112.03	13.74	1.6947	53.6	10	-63.03	3.82	1.6002	35.3
4	-302.70	3.82			11	78.11	1.14		
5	53.68	16.79	1.6947	53.6	12	97.25	24.81	1.6947	53.6
6	119.20	4.77			13	-30.71	4.77	1.6204	60.3
7	∞	6.11	1.6002	35.3	14	-82.06			

$$14.31^* = 8.00 + 6.31$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.20	-0.14	0.081	-0.31	0.11	36.94	0.76%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.19	0.28	0.17	-0.36	0.53		-0.036
70	-0.12	0.077	-0.099	-0.41	0.31	1.48	-0.031



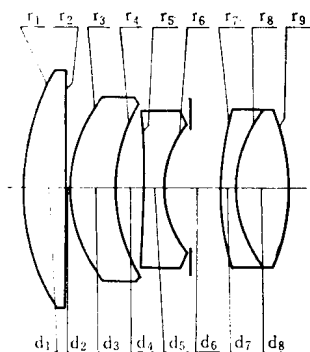
编号: 02-00-035

摄影物镜

E. F. L = 100

B. F. L = 41.55

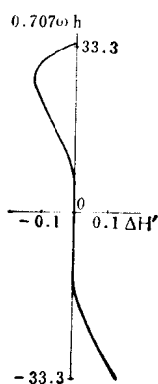
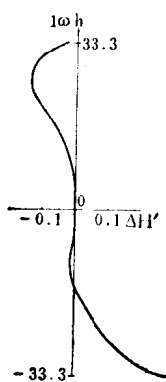
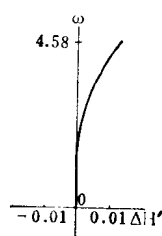
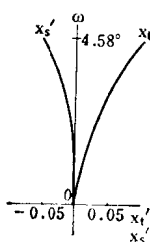
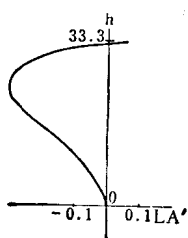
FNo. = 1.5

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	70.01	12.72	1.6204	60.3	6	30.88	17.75*		
2	-761.28	0.69			7	95.41	4.08	1.6034	38.0
3	42.19	14.95	1.6204	60.3	8	39.10	15.78	1.6584	50.8
4	57.20	8.09			9	-71.15			
5	-722.93	6.21	1.7283	28.3					

$$17.75^* = 7.90 + 9.85$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.23	-0.038	0.018	-0.029	0.0081	8	0.15%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.054	0.012	0.102	-0.048	0.150	0.12	-0.030
70	-0.30	0.0043	0.055	-0.024	0.079	0.058	-0.030



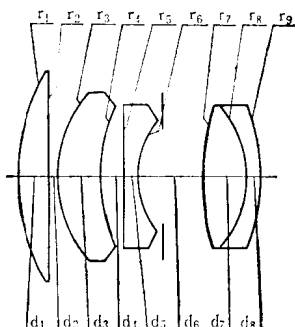
编号: 02-00-036

摄影物镜

E. F. L = 100

B. F. L = 46.82

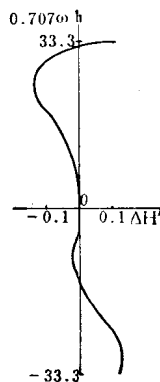
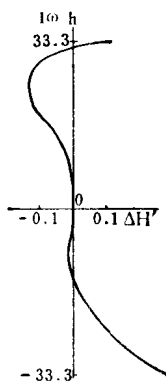
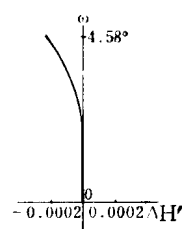
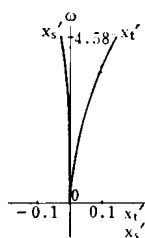
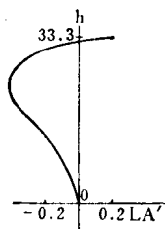
FNo. = 1.5

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	67.77	12.25	1.6031	60.7	6	29.77	20.90*		
2	-753.45	0.66			7	89.09	15.20	1.6584	50.8
3	41.20	14.40	1.6204	60.3	8	-34.00	3.94	1.5814	40.8
4	55.09	7.79			9	-70.63			
5	-707.41	4.85	1.7400	28.2					

$$20.90^* = 8.00 + 12.90$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.33	-0.040	0.021	-0.028	-0.00009	8	-0.003%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{TJ.7}'$
100	0.22	-0.00024	0.140	-0.031	0.171	0.20	-0.024
70	-0.43	-0.00005	0.076	-0.016	0.092	0.12	-0.023



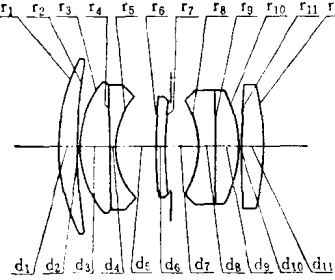
编号: 02-00-037

摄影物镜

E. F. L = 1

B. F. L = 0.692

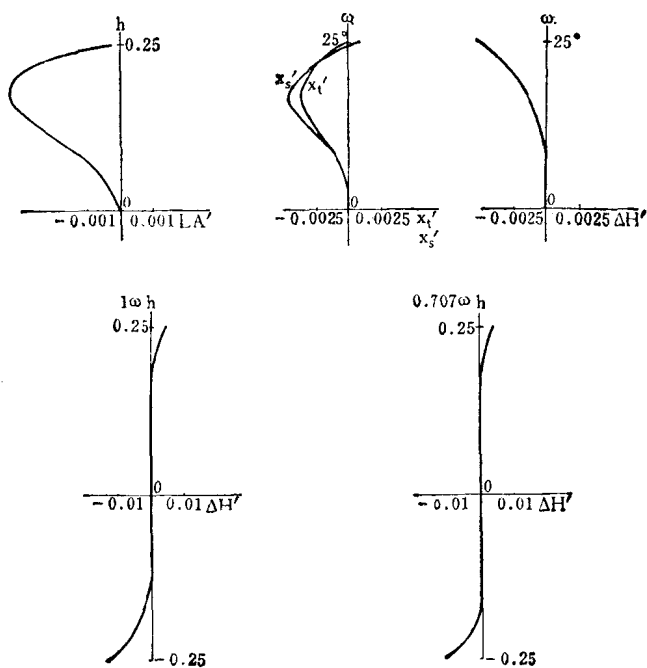
FNo. = 2

F. A. = $\pm 25^\circ$


序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.65481	0.06695	1.74400	44.90	7	1.17285	0.10633*		
2	1.75485	0.00984			8	-0.30760	0.05907	1.72825	28.34
3	0.35799	0.09943	1.62041	60.29	9	-5.96331	0.07876	1.74400	44.90
4	7.61609	0.01477	1.58144	40.80	10	-0.40725	0.00984		
5	0.25514	0.13783			11	3.70875	0.07876	1.74400	44.90
6	1.78027	0.02954	1.62004	36.34	12	-0.89225			

0.10633* = 0.00100 + 0.10533

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1%)
	-0.0014	0.000056	0.00016	-0.0022	-0.0014	0.46	-1.23%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.00034	-0.0057	-0.00026	0.00050	-0.00076	-0.0057	-0.0017
70	-0.0034						



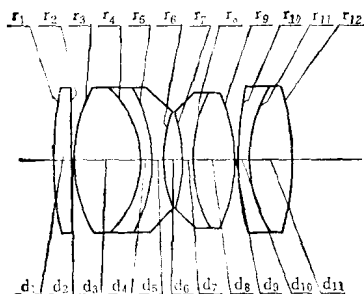
编号: 02-00-038

大 孔 径 物 镜

E. F. L = 60

B. F. L = 34.2

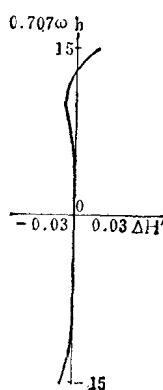
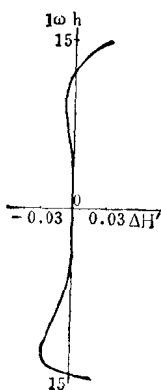
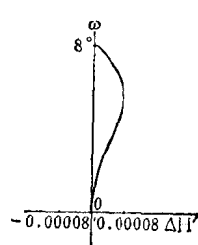
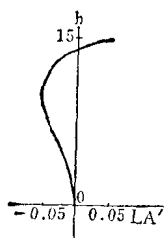
FNo. = 2

F. A. = $\pm 8^\circ$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	78.94	4.00	1.7174	29.5	7	-34.32	2.50	1.6200	36.3
2	∞	0.20			8	29.02	9.50	1.6200	60.3
3	33.61	15.10	1.6200	38.0	9	-37.55	0.20		
4	-21.22	2.50	1.6148	51.1	10	61.24	2.50	1.7174	29.5
5	-32.22	2.50	1.7174	29.5	11	29.02	9.30	1.6200	60.3
6	24.62	4.00*			12	-68.09			

4.00* = 2.00 + 2.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.031	-0.0028	0.013	-0.039	0.00023	8.45	0.0001%
h 或 ω %	LA'	$\Delta H'$	x_t	x'_s	$x'_t - x'_s$	K_{T1}	$K_{T0.7}$
100	0.050	0.000009	0.025	-0.194	0.219	0.028	-0.010
70	-0.056	0.00008	0.0082	-0.100	0.108	0.0036	-0.0075



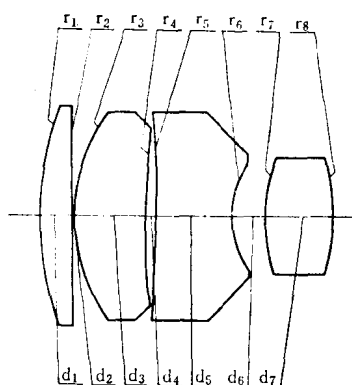
编号: 02-00-039

四 片 式 物 镜

E. F. L = 100

B. F. L = 38.84

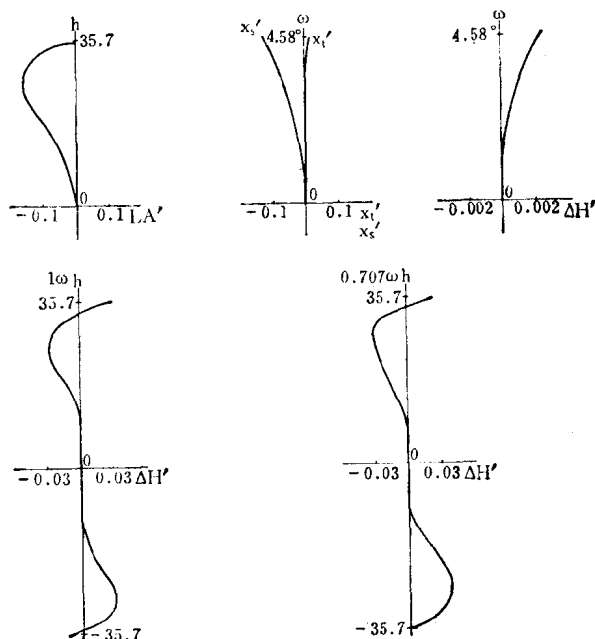
FNo. = 1.4

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _d	v	序号	r	d	n _d	v
1	132.94	11.76	1.62061	60.3	5	-531.10	28.12	1.72825	28.3
2	3619.00	0.77			6	36.23	12.27*		
3	66.63	27.61	1.65160	58.5	7	64.94	25.57	1.71300	53.9
4	327.30	3.12			8	-85.80			

$$12.27^* = 6.00 + 6.27$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.12	-0.00043	0.017	-0.051	0.0020	8	0.027%
h 或 $\omega\%$	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.0092	0.0022	0.0084	-0.131	0.139	0.0097	-0.00055
70	-0.16	0.00090	0.0032	-0.066	0.069	0.0089	0.0012



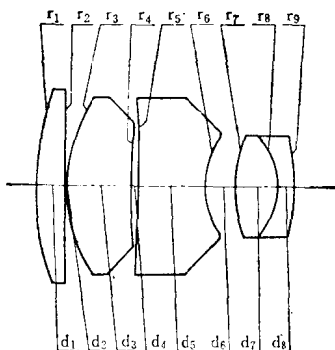
编号: 02-00-040

四 组 元 物 镜

E. F. L = 100

B. F. L = 38.35

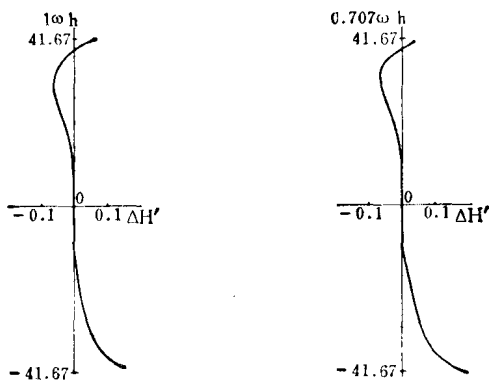
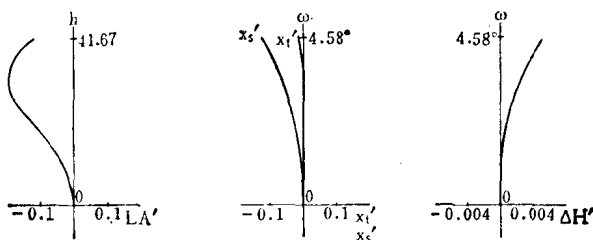
FNo. = 1.2

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	128.13	11.33	1.62061	60.3	6	34.74	11.83*		
2	3488.00	0.74			7	64.36	17.25	1.71300	53.9
3	64.51	26.61	1.65830	57.5	8	-31.15	7.39	1.65830	57.5
4	307.60	3.01			9	-103.49			
5	-534.30	27.11	1.72832	28.3					

$$11.83^* = 6.00 + 5.83$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.23	-0.0045	0.019	-0.063	0.0046	8	0.062%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.12	0.0049	-0.011	-0.120	0.109	0.18	-0.0077
70	-0.20	0.0018	-0.0068	-0.063	0.056	0.11	-0.0034



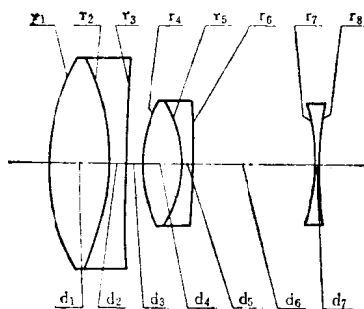
编号: 02-00-041

用于摄影或放映的物镜

E. F. L = 94

B. F. L = -1.85

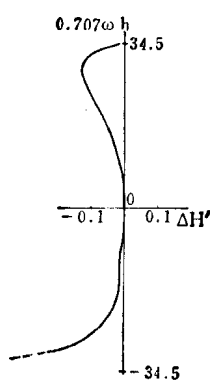
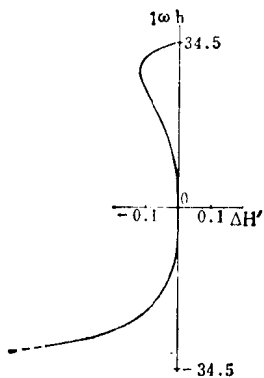
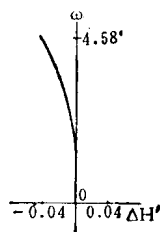
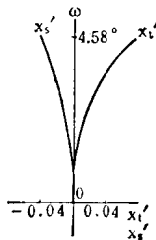
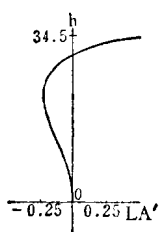
FNo. = 1.45

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	70.91	19.50	1.5625	50.9	5	-42.72	3.50	1.6166	36.6
2	-81.41	5.50	1.6989	30.1	6	-589.83	40.00		
3	677.16	65.00*			7	-75.98	1.85	1.5171	64.1
4	51.37	12.10	1.5332	58.1	8	138.26			

65.00* = 26.00 + 39.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.27	-0.023	0.014	-0.026	-0.030	7.54	-0.56%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.51	-0.042	0.078	-0.040	0.118	-0.52	-0.12
70	-0.24	-0.015	0.035	-0.021	0.056	-0.35	-0.084



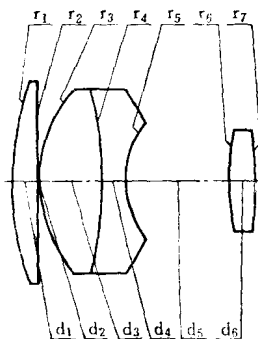
编号: 02-00-042

用于摄影、电影摄影和放映的大孔径物镜

E. F. L = 1

B. F. L = 0.368

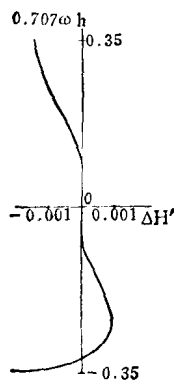
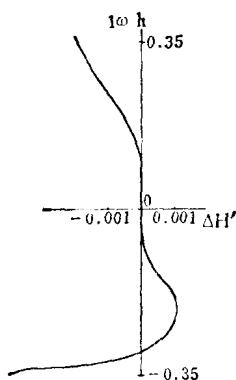
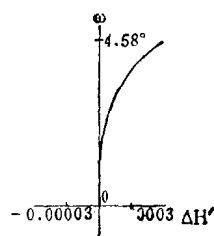
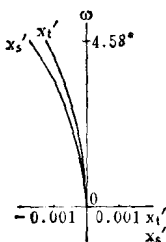
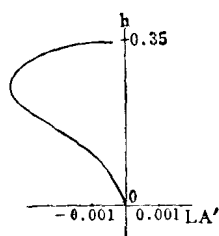
FNo. = 1.4

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	1.04000	0.10000	1.74400	44.90	5	0.36840	0.38000*		
2	11.02800	0.00200			6	0.89876	0.10000	1.74400	44.90
3	0.52034	0.24000	1.63854	55.48	7	-1.70742			
4	-1.34239	0.08000	1.76182	26.52					

$$0.38000^* = 0.19000 + 0.19000$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0027	0.00027	0.000054	-0.00050	0.000044	0.08	0.069%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{r0.7}$
100	-0.00042	0.000055	-0.0012	-0.0017	0.00051	-0.0028	-0.00013
70	-0.0035	0.000020	-0.00064	-0.00088	0.00024	-0.0018	-0.000060



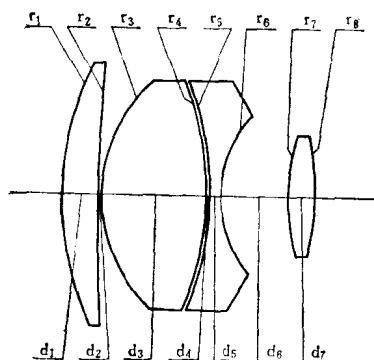
编号: 02-00-043

用于摄影、电影摄影和放映的大孔径物镜

E. F. L = 1

B. F. L = 0.424

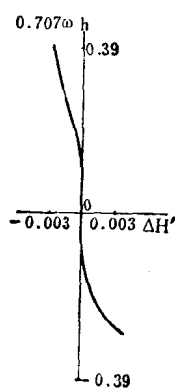
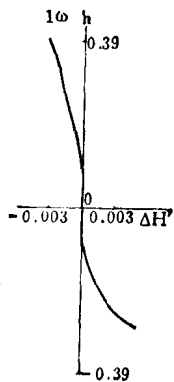
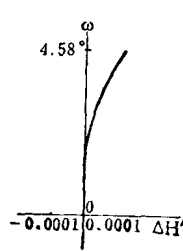
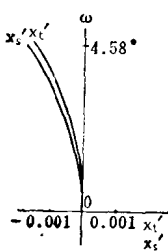
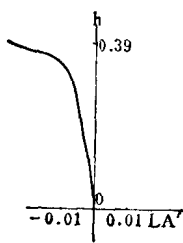
FNo. = 1.3

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	1.03060	0.12000	1.78443	43.77	5	-1.10030	0.05000	1.78470	26.10
2	4.68920	0.00300			6	0.38335	0.22500*		
3	0.51855	0.35000	1.53996	59.66	7	0.90790	0.08000	1.78443	43.77
4	-1.10030	0.00300			8	-1.35005			

$$0.22500^* = 0.10000 + 0.12500$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0052	0.00043	0.000027	-0.00057	0.00010	0.08	0.15%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.026	0.00012	-0.0015	-0.0017	0.00018		0.0017
70	-0.0066	0.000045	-0.00079	-0.00088	0.000094		0.00090



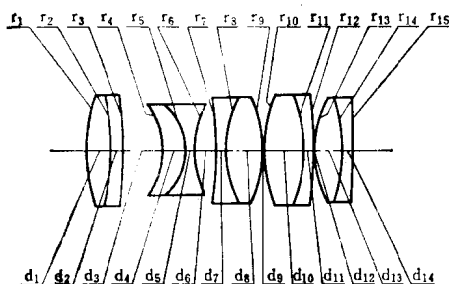
编号: 02-00-044

消球差、色差、象散和彗差的大孔径摄影物镜

E. F. L = 100

B. F. L = 66.8

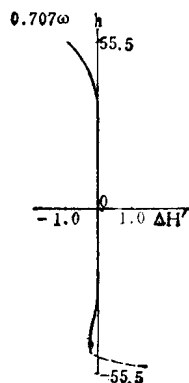
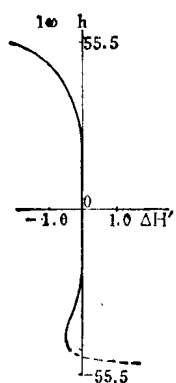
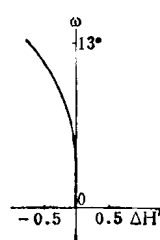
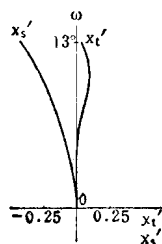
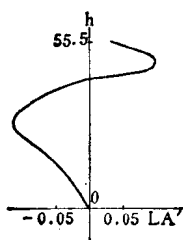
FNo. = 0.9

F. A. = $\pm 13^\circ$ 

序号	r	d	n_D	v	序号	r	d	n_D	v
1	212.20	23.48	1.74400	44.9	9	-139.08	1.56		
2	-237.60	11.74	1.64769	33.9	10	180.00	36.00	1.71300	53.9
3	-548.80	37.56			11	-156.50	9.40	1.74077	27.7
4	-82.90	21.12	1.74077	27.7	12	-612.20	1.56		
5	-57.44	9.40	1.58144	40.8	13	119.12	25.06	1.71300	53.9
6	105.50	21.12*			14	-201.10	9.40	1.74077	27.7
7	-323.70	9.40	1.67270	32.2	15	-1306.00			
8	116.76	34.44	1.71300	53.9					

21.12* = 10.00 + 11.12

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.51	0.20	0.23	-0.56	-0.81	22.36	-3.26%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.024	-0.73	0.025	-0.430	0.455		-0.42
70	-0.057	-0.26	0.083	-0.240	0.323		-0.16



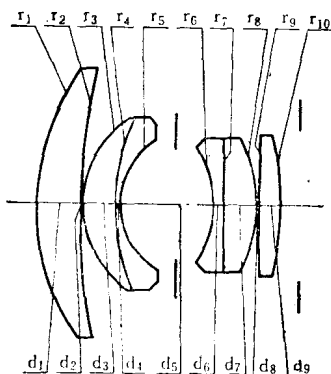
编号: 02-00-045

大 孔 径 摄 影 物 镜

E. F. L = 1

B. F. L = 0.63664

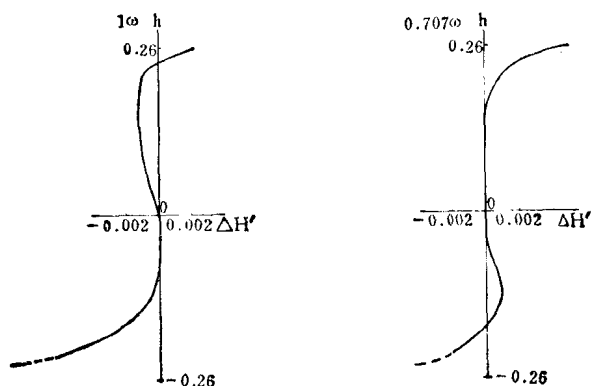
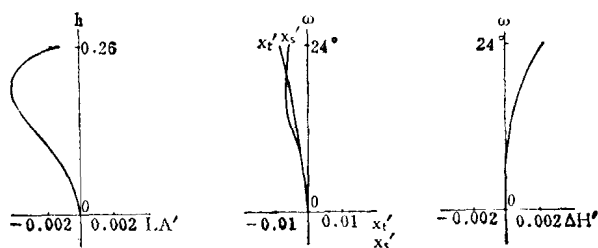
FNo. = 1.9

F. A. = $\pm 24^\circ$ 

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	0.73853	0.12463	1.72000	50.31	6	-0.31542	0.03665	1.69895	30.05
2	2.26782	0.00103			7	-5.25016	0.09698	1.69100	54.80
3	0.31446	0.09801	1.65830	57.29	8	-0.39150	0.00034		
4	0.62268	0.01642	1.65446	33.79	9	5.42416	0.05961	1.74950	35.00
5	0.23665	0.27818*			10	-0.92029			

$$0.27818^* = 0.18000 + 0.09818$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0017	0.00077	0.000099	-0.0028	0.0014	0.45	0.49%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.0012	0.0021	-0.0089	-0.0075	-0.0014	-0.0080	-0.0018
70	-0.0040	0.00082	-0.0064	-0.0074	0.0010	-0.0019	-0.00007



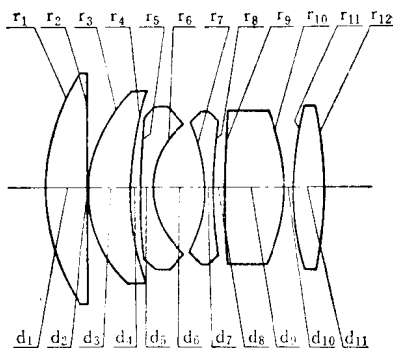
编号: 02-00-046

六 片 式 物 镜

E. F. L = 100

B. F. L = 56.6

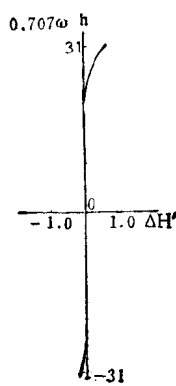
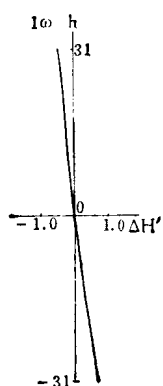
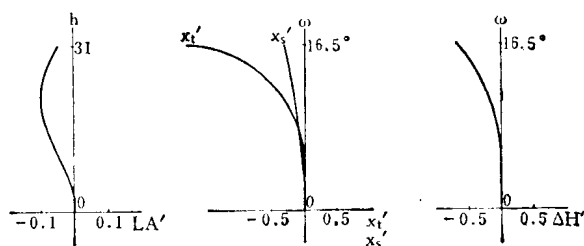
FNo. = 1.6

F. A. = $\pm 16.5^\circ$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	60.741	12.76	1.6203	60.2	7	-44.536	2.68	1.7270	28.5
2	4929.980	0.13			8	174.265	3.57		
3	39.890	12.50	1.6034	60.4	9	306.105	17.73	1.6242	46.9
4	96.753	2.42			10	-57.444	2.55		
5	200.554	3.57	1.6057	38.0	11	88.363	9.57	1.6203	60.2
6	24.899	15.05*			12	-112.535			

15.05* = 8.50 + 6.55

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.080	-0.045	0.062	-0.17	-0.27	28.76	-2.37%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.048	-0.68	-1.76	-0.26	-1.50	0.052	-0.040
70	-0.10	-0.19	-0.33	-0.21	-0.12	0.16	-0.024



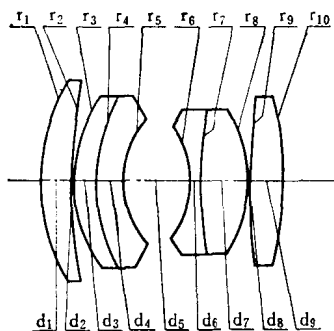
编号: 02-00-047

摄影物镜

E. F. L = 101

B. F. L = 73.7

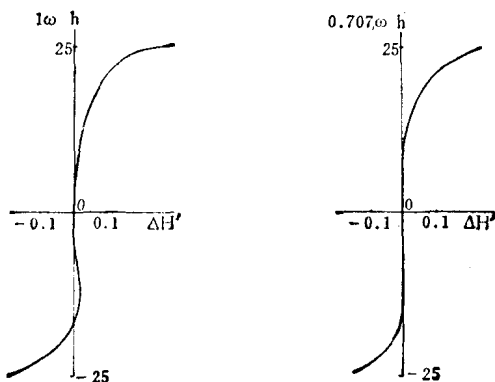
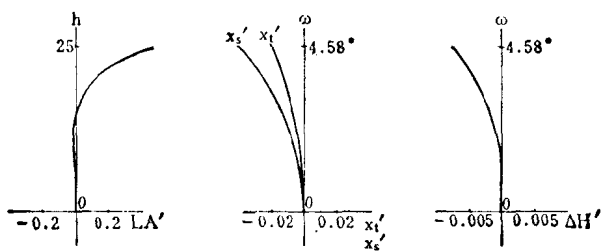
FNo. = 2

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	57.9	9.2	1.66200	56.1	6	-30.1	3.8	1.60156	35.2
2	174.9	0.2			7	137.0	14.1	1.66200	56.1
3	43.5	6.7	1.66200	56.1	8	-42.8	0.6		
4	53.5	8.4	1.67246	32.3	9	227.3	9.5	1.66200	56.1
5	26.7	19.9*			10	-96.0			

19.9* = 10.0 + 9.9

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.026	0.0063	0.0013	-0.0066	-0.0035	8	-0.089%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{Tc.7}'$
100	0.46	-0.0072	-0.021	-0.042	0.021	0.047	0.021
70	0.055	-0.0025	-0.010	-0.021	0.011	0.036	0.015



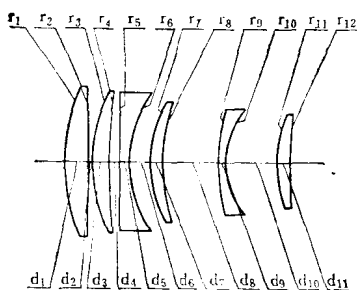
编号: 02-00-048

远 摄 物 镜

E. F. L = 122

B. F. L = 47.5

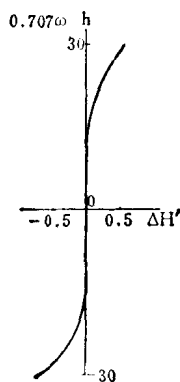
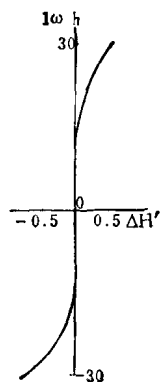
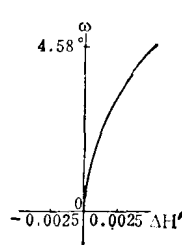
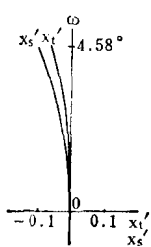
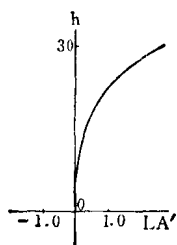
FNo. = 1.9

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	61.96	8.00	1.54771	62.9	7	39.36	4.00	1.60738	56.7
2	-940.70	0.27			8	60.02	18.67*		
3	49.30	6.67	1.60729	59.5	9	67.40	2.67	1.74080	28.0
4	200.10	3.07			10	27.21	17.34		
5	∞	3.33	1.64769	33.9	11	43.00	4.00	1.64769	33.9
6	40.50	6.67			12	202.50			

18.67* = 9.00 + 9.67

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.11	0.0035	0.0023	-0.014	0.0034	8.6	0.062%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{F1}'	$K_{F0.7}'$
100	2.68	0.0054	-0.062	-0.098	0.036	-0.13	-0.015
70	0.84	0.0022	-0.031	-0.050	0.019	-0.099	-0.014



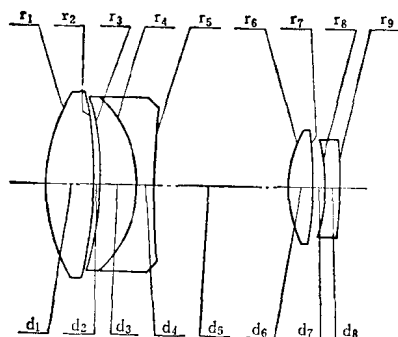
编号: 02-00-049

消色差、球差、象散和彗差的大孔径达尔美尔型摄影物镜

E. F. L = 100

B. F. L = 36.5

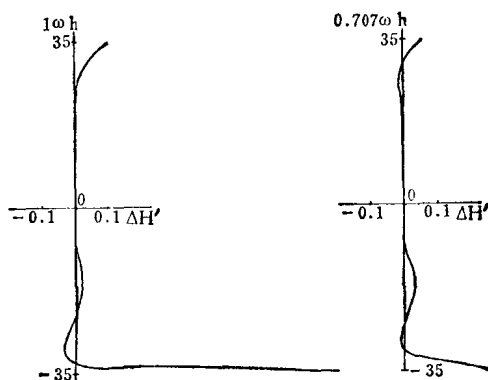
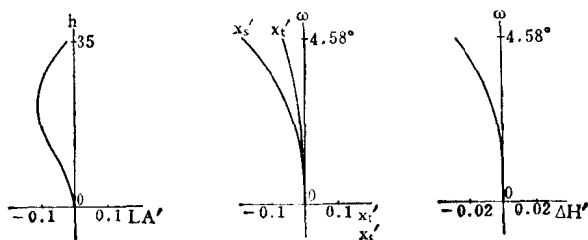
FNo. = 1.4

F. A. = $\pm 4.58^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	73.69	19.28	1.6073	59.5	6	56.58	9.64	1.6516	58.5
2	-179.64	3.30			7	-131.21	5.09		
3	-120.30	13.77	1.7408	28.0	8	-71.62	5.51	1.7408	28.0
4	-46.75	6.88	1.7174	29.5	9	-305.78			
5	373.00	55.10*							

55.10* = 25.00 + 30.10

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.14	0.018	0.015	-0.063	-0.019	8	-0.36%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.016	-0.029	-0.062	-0.192	0.130	0.47	-0.0097
70	-0.12	-0.010	-0.034	-0.098	0.064	0.15	-0.0044



编号: 02-00-050

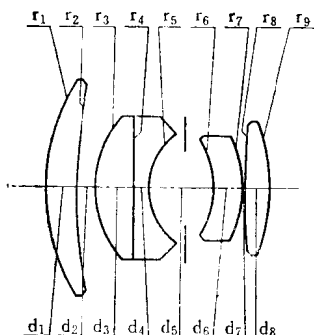
摄影及放映用的大孔径物镜

E. F. L = 1

B. F. L = 0.579

FN₀ = 2.5

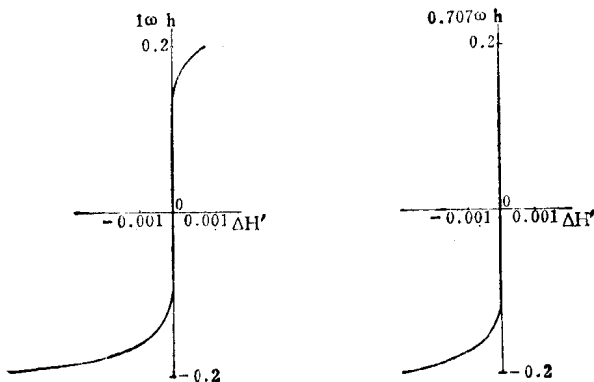
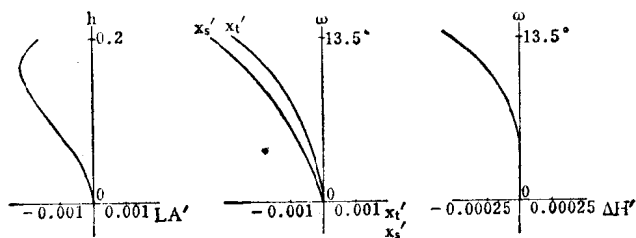
F. A. = ± 13.5°



序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	0.6040	0.0931	1.658	50.8	6	-0.2739	0.0783	1.755	27.5
2	1.6430	0.0521			7	-0.4078	0.0094		
3	0.3211	0.1118	1.658	50.8	8	2.2670	0.0699	1.639	55.5
4	∞	0.0480	1.673	32.2	9	-0.5240			
5	0.2190	0.1934*							

$$0.1934^* = 0.1000 + 0.0934$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1°)
	-0.00047	0.000010	0.000091	-0.00044	-0.000055	0.23	-0.24%
h 或 ω %	LA'	ΔH'	x _t '	x _s '	x _t ' - x _s '	K _{T1}	K _{T0.7}
100	-0.0017	-0.00056	-0.0027	-0.0033	0.00059	-0.0020	-0.00013
70	-0.0020	-0.00012	-0.0012	-0.0019	0.00077	-0.0015	-0.00018



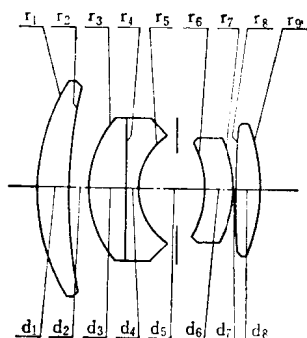
编号: 02-00-051

摄影及放映用的大孔径物镜

E. F. L = 1

B. F. L = 0.564

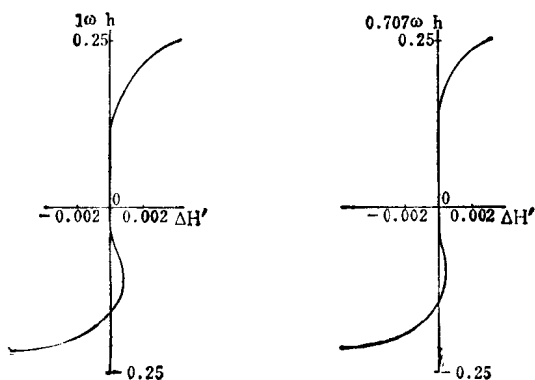
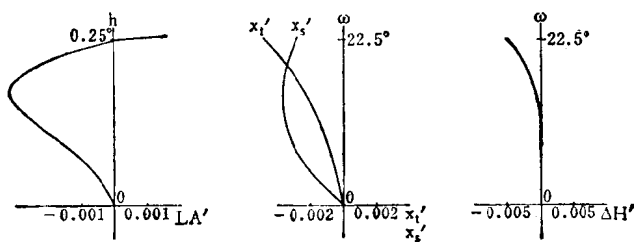
FNo. = 2

F. A. = $\pm 22.5^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	0.5379	0.0948	1.744	44.9	6	-0.2665	0.0673	1.755	27.5
2	1.1950	0.0577			7	-0.3913	0.0192		
3	0.3269	0.1138	1.717	47.9	8	7.6923	0.0712	1.713	53.9
4	1.9231	0.0173	1.728	28.7	9	-0.5150			
5	0.2263	0.2212*							

$$0.2212^* = 0.1100 + 0.1112$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0015	0.00017	0.00027	-0.0018	0.00037	0.41	-1.21%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{t1}'	$K_{t0.7}'$
100	0.0017	-0.0050	-0.0047	-0.0030	-0.0017	-0.010	-0.00016
70	-0.0032	-0.00061	-0.0027	-0.0041	0.0014	-0.0084	-0.00055



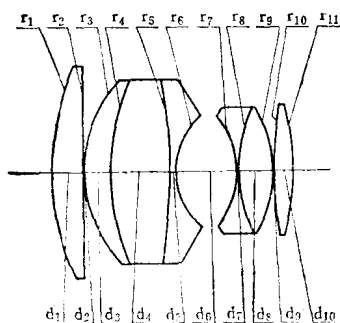
编号: 02-00-052

四组元大孔径高斯物镜

E. F. L = 1

B. F. L = 0.527

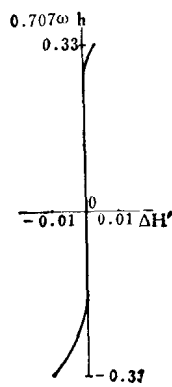
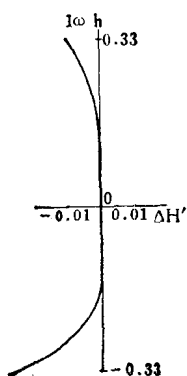
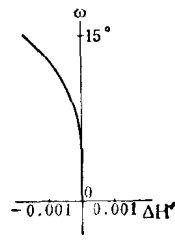
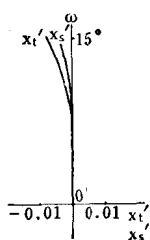
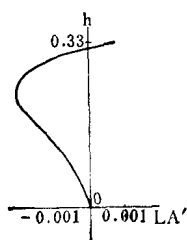
FNo. = 1.5

F. A. = $\pm 15^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	0.822	0.105	1.6228	56.9	7	-0.310	0.015	1.5317	48.9
2	9.500	0.002			8	0.572	0.103	1.6584	50.8
3	0.440	0.085	1.6385	55.5	9	-0.440	0.002		
4	0.805	0.190	1.5163	64.0	10	1.500	0.060	1.6385	55.5
5	-1.850	0.020	1.6889	31.1	11	-0.846			
6	0.252	0.190*							

0.190* = 0.100 + 0.090

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0020	0.00053	0.00010	-0.0013	-0.00028	0.26	-0.66%
或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
	0.00088	-0.0017	-0.0076	-0.0024	-0.0052	-0.017	-0.0037
	-0.0024	-0.00038	-0.0028	-0.0020	-0.0008	-0.0039	-0.0010



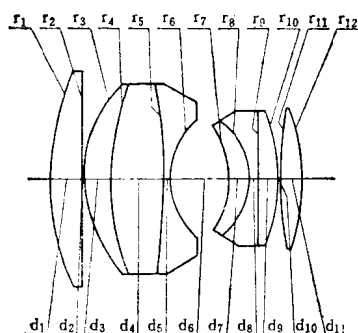
编号: 02-00-053

四组元大孔径高斯物镜

E. F. L = 1.03

B. F. L = 0.578

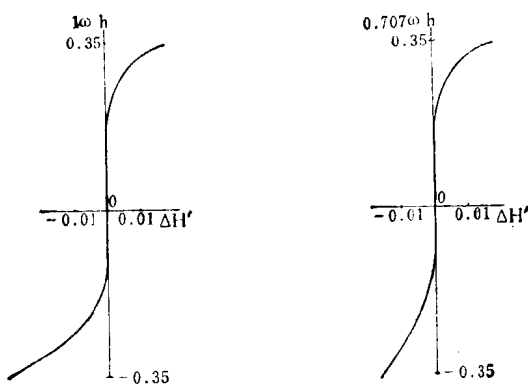
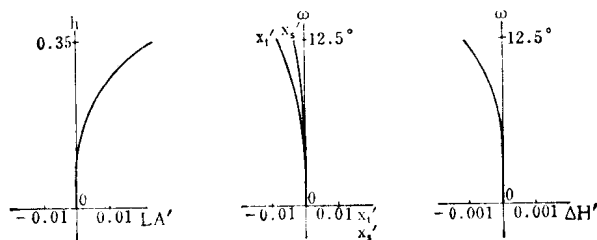
FNo. = 1.4

F. A. = $\pm 12.5^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	0.855	0.105	1.6204	60.3	7	-0.304	0.069	1.5891	61.2
2	∞	0.002			8	-0.227	0.039	1.5263	51.0
3	0.440	0.085	1.6385	55.5	9	-5.710	0.058	1.6385	55.5
4	0.900	0.178	1.5163	64.0	10	-0.539	0.003		
5	-1.790	0.020	1.6727	32.2	11	1.300	0.065	1.6385	55.5
6	0.247	0.190*			12	-0.689			

0.190* = 0.100 + 0.090

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.0013	-0.00034	-0.00014	-0.00053	-0.00051	0.23	-0.52%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.023	-0.0012	-0.0083	-0.0018	-0.0065	-0.0057	-0.0033
70	0.0063	-0.00035	-0.0031	-0.0012	-0.0019	0.00086	-0.0016



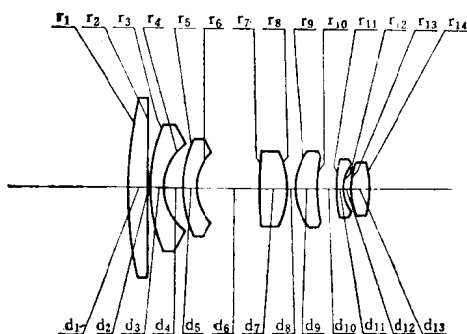
编号: 02-00-054

具有负前组的大孔径物镜

E. F. L = 100

B. F. L = 124.8

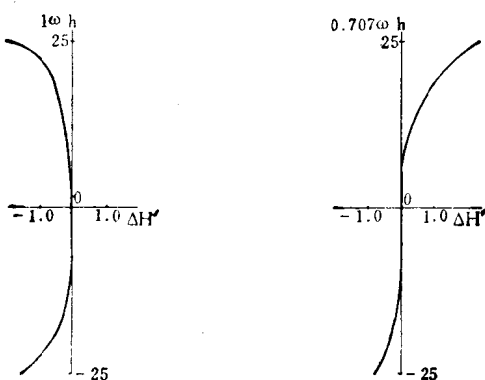
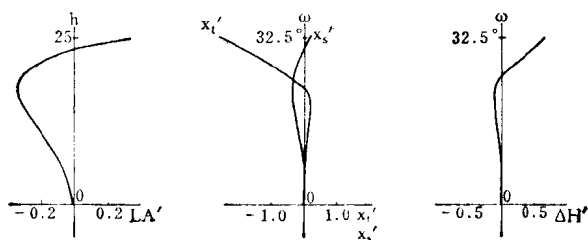
FNo. = 2

F. A. = $\pm 32.5^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	645.25	32.0	1.7174	29.5	8	-155.10	14.0		
2	∞	5.0			9	101.05	37.0	1.5687	63.1
3	289.25	21.0	1.5687	63.1	10	250.15	32.0*		
4	89.04	32.0			11	246.20	9.5	1.8052	25.5
5	186.75	21.0	1.5822	42.0	12	66.15	10.8		
6	80.17	106.1			13	102.94	32.0	1.6779	55.5
7	885.60	44.5	1.5687	63.1	14	-196.14			

$$32.0^* = 16.0 + 16.0$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.16	0.28	-0.19	-0.20	-0.10	62.69	1.01%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{t1}'	$K_{t0.7}'$
100	0.34	0.63	-2.57	0.11	-2.68	-1.73	-0.45
70	0.35	-0.081	0.14	-0.35	0.49	0.74	0.26



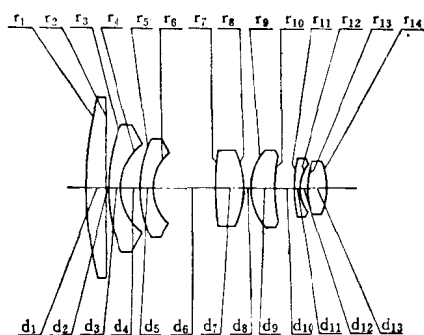
编号: 02-00-055

具有负前组的大孔径物镜

E. F. L = 100

B. F. L = 129.7

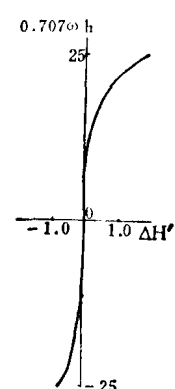
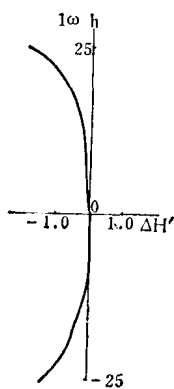
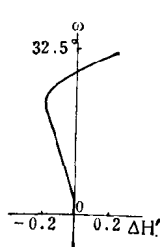
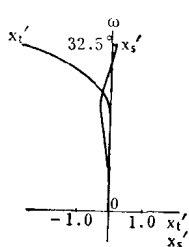
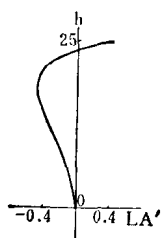
FNo. = 2

F. A. = $\pm 32.5^\circ$ 

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	737.70	30.5	1.8052	25.5	8	-170.10	9.0		
2	∞	5.0			9	108.12	38.0	1.6200	60.3
3	359.05	21.5	1.5225	59.1	10	249.10	35.0*		
4	91.04	35.7			11	371.08	8.5	1.8052	25.5
5	182.45	21.5	1.6477	33.9	12	70.42	9.5		
6	83.88	108.0			13	106.10	31.0	1.6935	53.6
7	1161.55	46.0	1.6200	60.3	14	-174.95			

35.0* = 17.5 + 17.5

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.21	0.20	-0.094	-0.16	-0.31	62.72	0.38%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.43	0.21	-2.73	0.11	-2.84	-1.68	-0.49
70	-0.50	-0.19	-0.031	-0.281	0.250	0.57	0.13



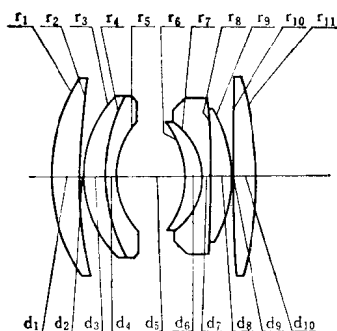
编号: 02-00-056

大 孔 径 摄 影 物 镜

E.F.L=1.05

B.F.L=0.725

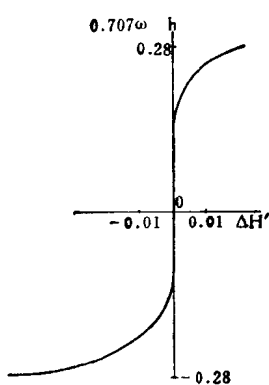
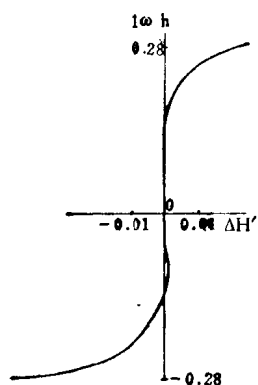
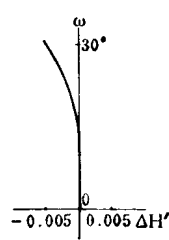
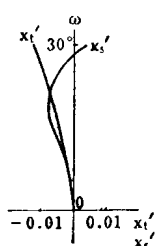
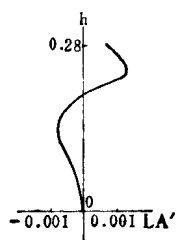
FNo.=1.8

F.A.= $\pm 30^\circ$ 

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	0.579	0.097	1.6584	50.8	7	-0.215	0.026	1.5750	41.3
2	1.787	0.005			8	-3.299	0.069	1.6779	55.3
3	0.369	0.079	1.6584	50.8	9	-0.422	0.001		
4	0.573	0.032	1.6987	30.1	10	4.259	0.083	1.6395	55.5
5	0.267	0.230*			11	-1.057			
6	-0.297	0.055	1.6204	60.3					

$$0.230^* = 0.120 + 0.110$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.00089	-0.00074	0.00063	-0.0043	-0.00062	0.60	-0.85%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{t1}	$K'_{t0.7}$
100	0.00067	-0.0051	-0.011	0.0036	-0.015	-0.012	-0.0029
70	-0.000093	-0.0011	-0.0086	-0.0080	-0.00056	-0.016	-0.0030



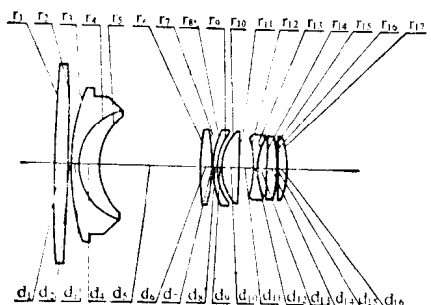
编号: 02-00-057

摄影或电影摄影用的广角物镜

E.F.L=100

B.F.L=126.9

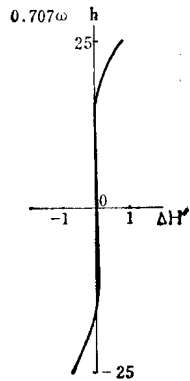
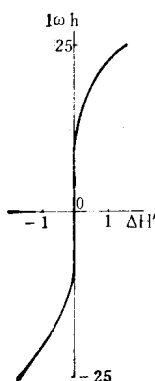
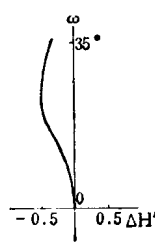
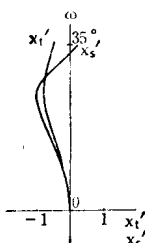
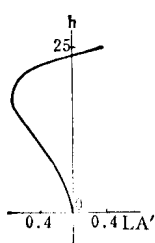
FNo.=2

F.A.= $\pm 35^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	1451.90	16.43	1.52630	51.00	10	66.49	19.63	1.71700	47.90
2	-1451.90	2.49			11	15706.80	18.00*		
3	263.32	9.03	1.71700	47.90	12	-165.15	5.79	1.78470	26.10
4	67.70	24.93	1.61293	36.95	13	76.77	10.47		
5	78.34	123.04			14	991.49	11.78	1.71300	53.89
6	458.38	12.01	1.69968	34.95	15	-239.62	0.59		
7	-297.45	0.33			16	876.30	10.21	1.71300	53.89
8	104.55	6.02	1.62364	36.75	17	-102.45			
9	68.55	6.22							

18.00* = 9.00 + 9.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.29	0.064	-0.018	-0.31	-0.66	68.52	-0.50%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.36	-0.34	-0.53	0.21	-0.74	-0.11	-0.12
70	-0.72	-0.50	-0.85	-0.93	0.082	-0.025	-0.035



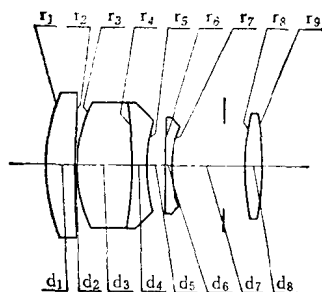
编号: 02-00-058

摄影或电影摄影用的大孔径物镜

E.F.L=100

B.F.L=44.59

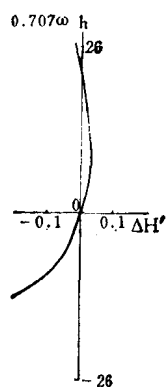
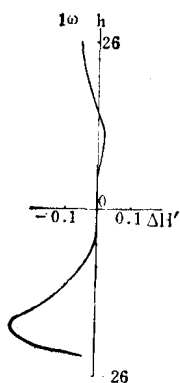
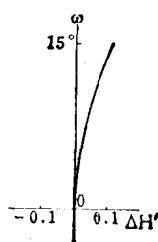
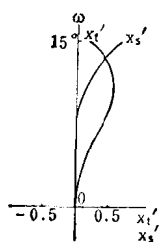
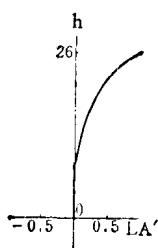
FNo.=1.9

F.A.= $\pm 15^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	59.04	8.91	1.7279	37.76	6	∞	1.67	1.7471	27.50
2	1513.25	0.11			7	30.08	22.28*		
3	45.93	16.71	1.6255	57.87	8	83.62	5.57	1.7148	36.25
4	-111.41	4.46	1.7471	27.50	9	-89.11			
5	54.60	5.57							

$$22.28^* = 12.28 + 10.00$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.016	-0.077	0.12	-0.11	0.13	26.60	0.41%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	1.00	0.11	0.16	0.68	-0.52	1.72	-0.13
70	0.24	0.075	0.59	0.13	0.46	-0.99	-0.23



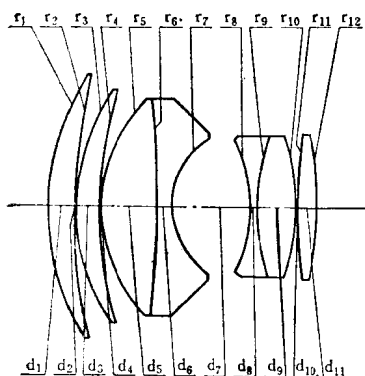
编号: 02-00-059

大 孔 径 高 斯 型 物 镜

E.F.L=102

B.F.L=46.03

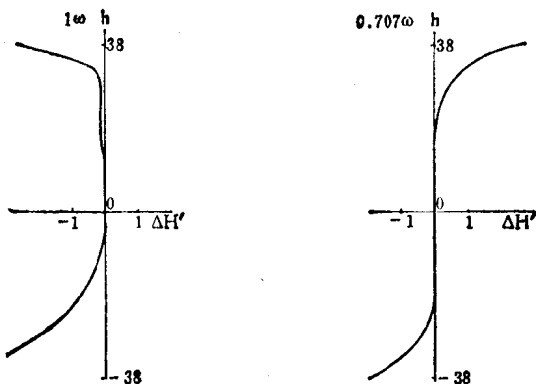
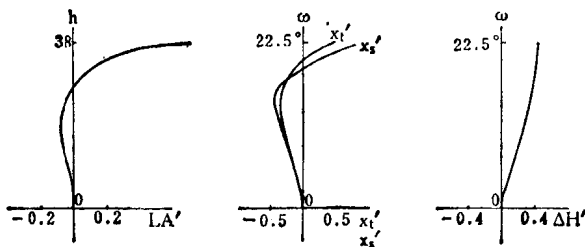
FNo.=1.3

F.A.= $\pm 22.5^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	83.496	8.75	1.6780	55.5	7	26.951	20.19*		
2	202.980	0.10			8	-44.198	2.35	1.54072	47.2
3	70.207	7.53	1.6910	54.8	9	81.438	12.74	1.7170	47.9
4	132.340	0.60			10	-74.480	0.10		
5	49.059	18.98	1.6393	44.9	11	263.439	6.86	1.7340	51.1
6	-319.480	4.70	1.72825	28.3	12	-97.021			

20.19* = 8.00 + 12.19

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.15	0.064	-0.057	-0.46	0.95	42.09	1.02%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{t1}'	$K_{f0.7}'$
100	0.69	0.43	0.50	0.73	-0.23	-4.95	-0.88
70	-0.037	-0.35	-0.36	-0.41	0.05	0.25	-0.021



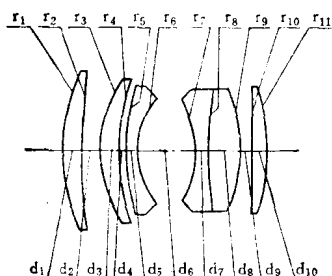
编号: 02-00-060

摄影物镜

E.F.L = 1

B.F.L = 0.745

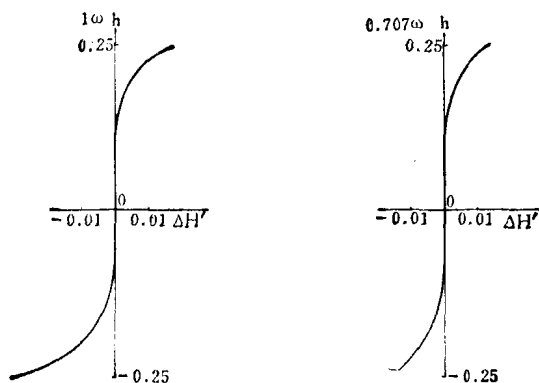
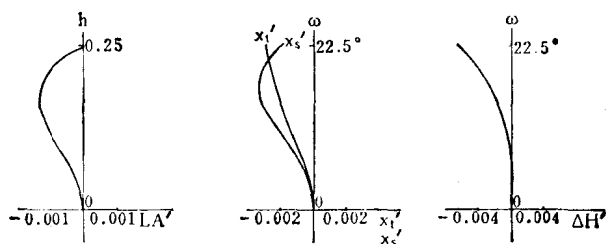
FNo. = 2

F.A. = $\pm 22.5^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	0.6164	0.057	1.72341	50.1	7	-0.3209	0.036	1.67764	32.0
2	1.7313	0.051			8	1.5026	0.103	1.69400	54.6
3	0.4079	0.068	1.69400	54.6	9	-0.5003	0.035		
4	0.7224	0.020			10	∞	0.056	1.82450	43.2
5	0.7245	0.036	1.64416	34.4	11	-0.6521			
6	0.2630	0.190*							

0.190* = 0.100 + 0.090

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.00074	0.00000026	0.00025	-0.0016	-0.0023	0.41	-1.64%
h 或 ω %	LA'	$\Delta H'$	λ'_t	λ'_s	$\lambda'_t - \lambda'_s$	K'_{T1}	$K'_{T0.7}$
100	0.00010	-0.0067	-0.0029	-0.0021	-0.00079	-0.0067	-0.0022
70	-0.0014	-0.0020	-0.0024	-0.0036	0.0012	-0.0011	-0.00061



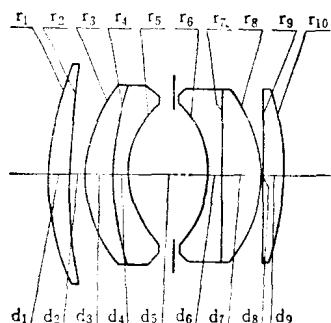
编号: 02-00-061

大 孔 径 高 斯 型 物 镜

E.F.L = 1

B.F.L = 0.757

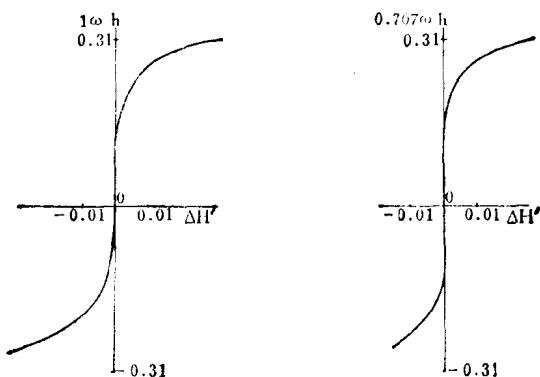
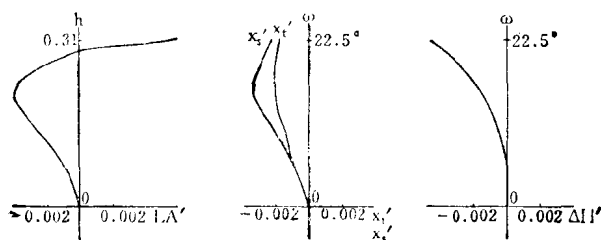
FNo. = 1.6

F.A. = $\pm 22.5^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.7874	0.0619	1.78847	50.45	6	-0.3036	0.0419	1.66680	33.09
2	1.9638	0.0419			7	∞	0.1130	1.71300	53.89
3	0.4195	0.0855	1.69100	54.80	8	-0.4183	0.001		
4	0.8206	0.0491	1.62588	35.64	9	12.5545	0.0639	1.73350	51.04
5	0.2844	0.2359*			10	-0.7809			

$$0.2359^* = 0.1359 + 0.1000$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0033	-0.000076	-0.00042	-0.0025	-0.0021	0.41	-1.17%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0061	-0.0048	-0.0018	-0.0023	0.00051		-0.0053
70	-0.0041	-0.0015	-0.0021	-0.0036	0.0015	-0.021	-0.0019



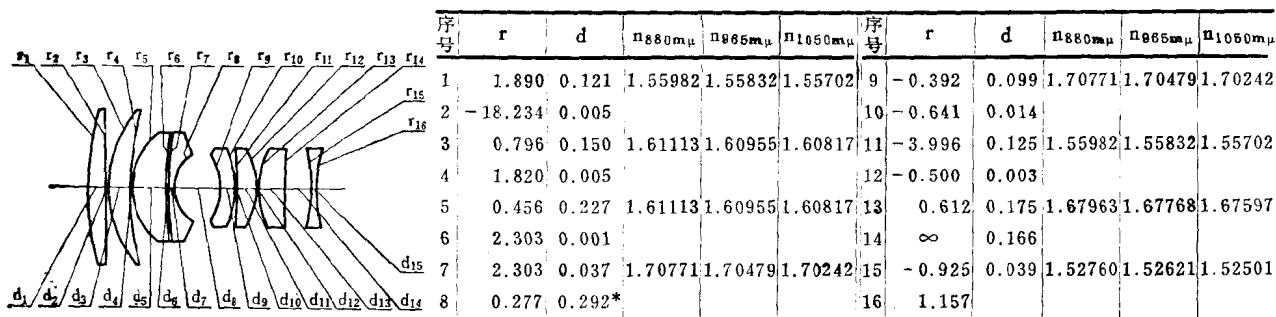
编号: 02-00-062

红 外 物 镜

E.F.L = 1

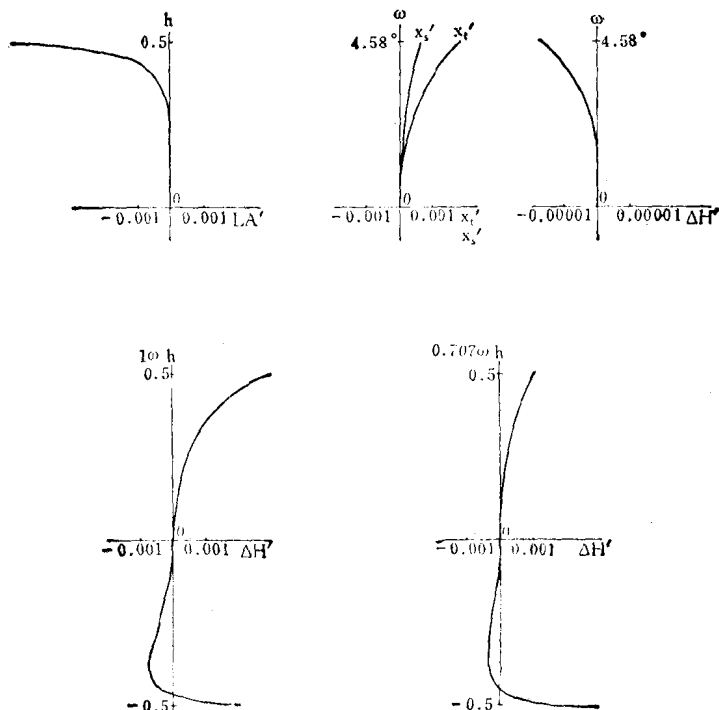
B.F.L = 0.054

FNo. = 1

F.A. = $\pm 4.58^\circ$ **

$$0.292^* = 0.150 + 0.142$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.00048	0.000049	0.00029	-0.000056	-0.000016	0.08	-0.02%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.0047	-0.000016	0.0017	0.00053	0.0012	0.0030	0.00019
70	-0.00015	-0.000005	0.00085	0.00025	0.00060	0.0021	0.00010



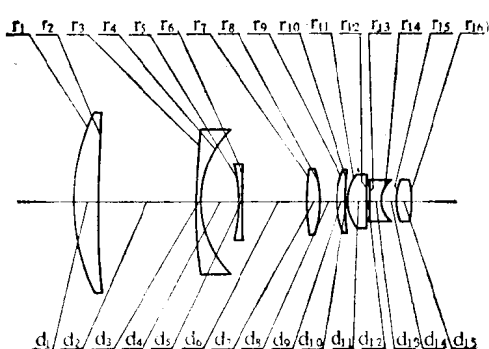
编号: 02-00-063

大 孔 径 物 镜

E.F.L=100

B.F.L=37.2

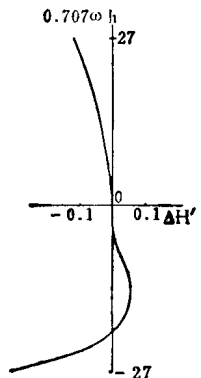
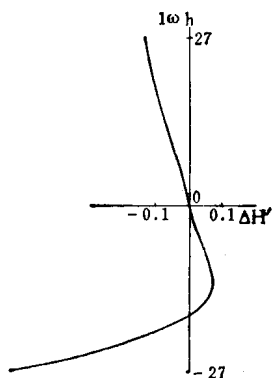
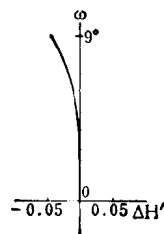
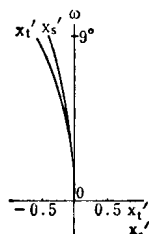
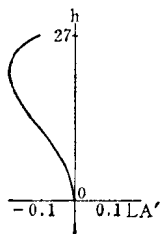
FNo.=1.8

F.A.= $\pm 9^{\circ}$ **

序号	r	d	n _D	v _D	序号	r	d	n _D	v _D
1	291.94	31.25	1.71615	53.7	9	91.01	11.69	1.68081	55.3
2	1621.97	131.58			10	250.05	0.50		
3	924.46	6.25	1.64648	47.5	11	57.13	28.75	1.69400	54.6
4	136.48	50.20			12	∞	0.81		
5	-173.49	6.25	1.62410	36.1	13	-424.87	16.38	1.76846	26.8
6	∞	87.01			14	32.67	20.13*		
7	587.81	12.50	1.52010	65.0	15	59.04	18.07	1.67341	46.9
8	-225.62	25.00			16	-168.78			

20.13* = 10.13 + 10

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.087	0.027	-0.010	-0.064	-0.0023	16.13	-0.29%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.11	-0.047	-0.58	-0.44	-0.14	-0.49	-0.054
70	-0.19	-0.010	-0.29	-0.23	-0.06	-0.21	-0.012



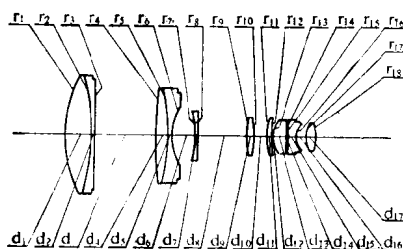
编号: 02-00-064

大 孔 径 物 镜

E.F.L=100

B.F.L=37.2

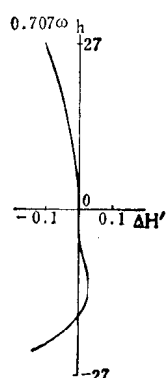
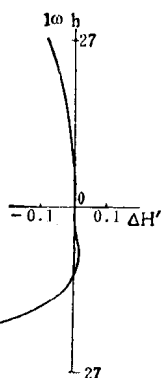
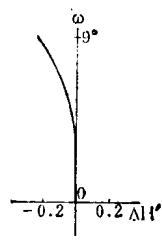
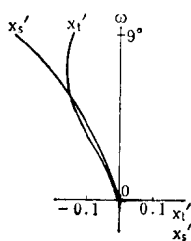
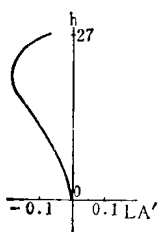
FNo.=1.8

F.A.= $\pm 9^\circ$ 

序号	r	d	n_D	v_D	序号	r	d	n_D	v_D
1	270.37	50.01	1.6207	49.5	10	-225.62	25.00		
2	-438.45	9.38	1.76846	26.8	11	91.01	11.69	1.68081	55.3
3	15883.63	122.08			12	250.04	0.50		
4	944.50	21.88	1.76846	26.8	13	57.13	28.75	1.69400	54.6
5	-375.06	6.25	1.62287	60.1	14	∞	0.81		
6	111.99	49.88			15	-424.87	16.38	1.76846	26.8
7	-173.49	6.25	1.62410	36.1	16	32.67	20.13*		
8	∞	96.89			17	59.04	18.07	1.67341	46.9
9	587.81	12.50	1.52010	65.0	18	-168.78			

20.13* = 10.13 + 10.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.081	0.014	-0.0047	-0.059	-0.058	16.14	-1.47%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.073	-0.23	-0.15	-0.31	0.16	-0.84	-0.12
70	-0.17	-0.058	-0.17	-0.19	0.016	-0.28	-0.036



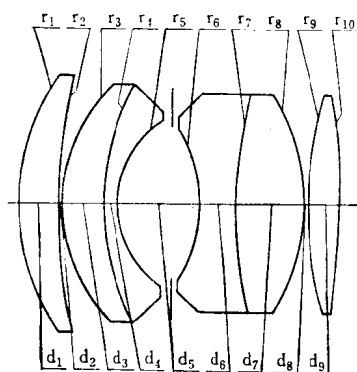
编号: 02-00-065

大 孔 径 高 斯 型 物 镜

E.F.L = 1

B.F.L = 0.655

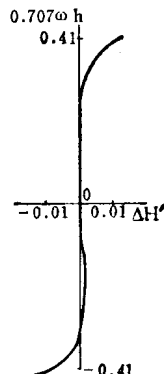
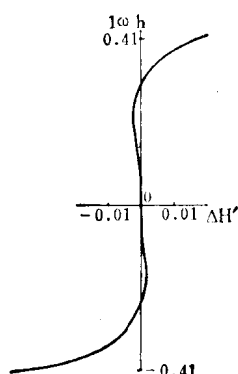
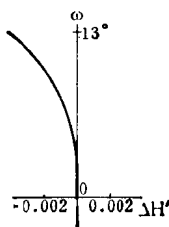
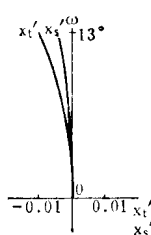
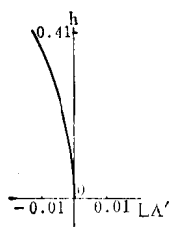
FNo. = 1.2

F.A. = $\pm 13^\circ$ 

序号	r	d	n	v	序号	r	d	n	v
1	0.687	0.126	1.788	50.5	6	-0.419	0.110	1.741	28.1
2	1.895	0.0007			7	1.431	0.213	1.734	51.0
3	0.510	0.128	1.807	40.6	8	-0.607	0.004		
4	0.760	0.043	1.699	30.1	9	1.102	0.103	1.788	47.4
5	0.300	0.256*			10	-2.143			

$$0.256^* = 0.167 + 0.089$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0041	0.000069	-0.00051	-0.0012	-0.0030	0.23	-1.83%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.012	-0.0042	-0.0094	-0.0044	-0.0050	-0.014	-0.0018
70	-0.0056	-0.0014	-0.0044	-0.0024	-0.0020	-0.00096	-0.00020



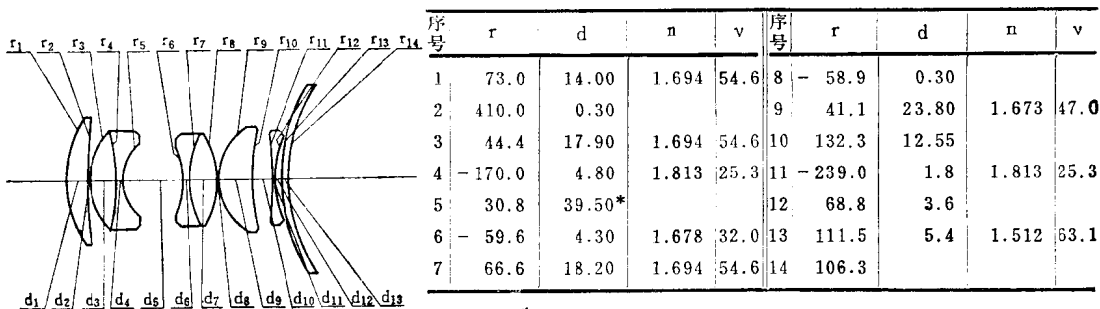
编号: 02-00-066

电 视 摄 影 物 镜

E.F.L = 102

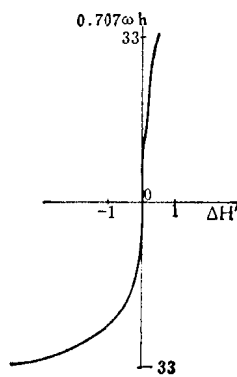
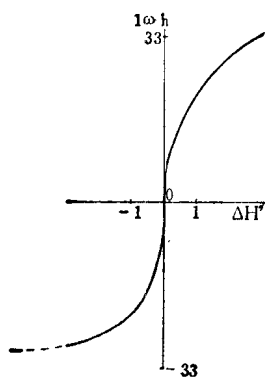
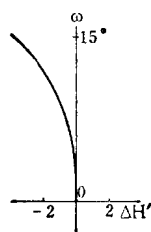
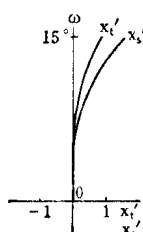
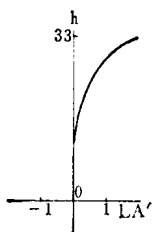
B.F.L = 1.52

FNo. = 1.5

F.A. = $\pm 15^\circ$ 

39.50* = 20.00 + 19.50

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.059	-0.096	-0.021	0.17	-1.77	27.24	-14.70%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{F1}'	$K_{F10.7}'$
100	1.94	-4.00	0.75	1.40	-0.65	-3.34	-0.052
70	0.45	-1.21	0.28	0.54	-0.26	-1.88	-0.30



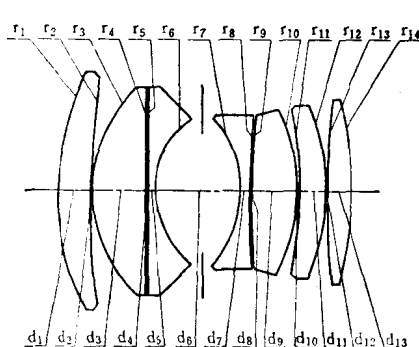
编号: 02-00-067

摄影物镜

E.F.L = 1

B.F.L = 0.66

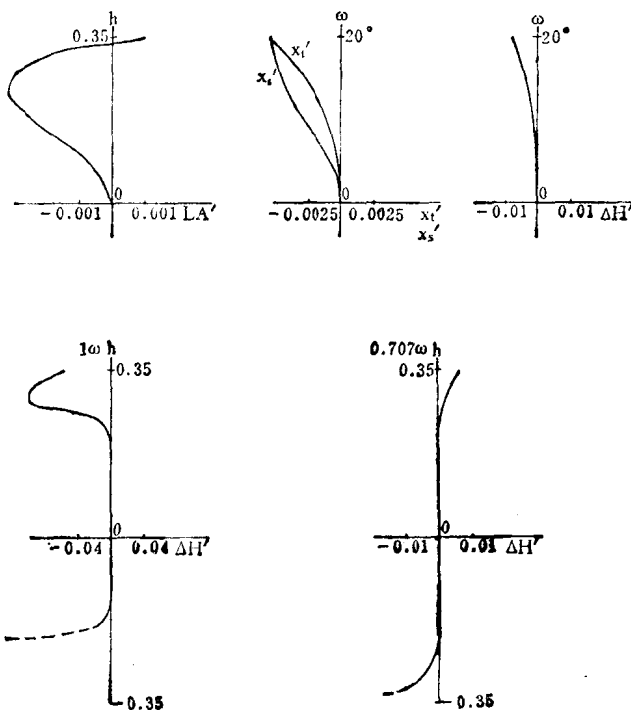
FNo. = 1.4

F.A. = $\pm 20^\circ$ 

序号	r	d	n _D	v _d	序号	r	d	n _D	v _d
1	0.8466	0.1149	1.71700	47.90	8	3.7272	0.0000		
2	2.7160	0.0017			9	3.7272	0.1486	1.78443	43.77
3	0.4830	0.1774	1.62299	58.12	10	-0.6125	0.0017		
4	∞	0.0000			11	-1.6178	0.0845	1.78443	43.77
5	∞	0.0253	1.57501	41.31	12	-0.7766	0.0017		
6	0.3004	0.2872*			13	2.3860	0.0845	1.71700	47.90
7	-0.3622	0.0372	1.80518	25.46	14	-1.1371			

0.2872* = 0.1872 + 0.1000

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0030	0.00090	0.00067	-0.0034	-0.0042	0.36	-1.92%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0010	-0.0070	-0.0052	-0.0052	0.000037		
70	-0.0032	-0.0024	-0.0021	-0.0042	0.0021		-0.00040



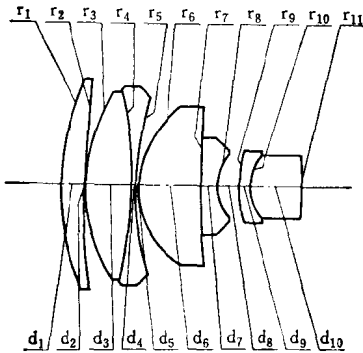
编号: 02-00-068

大 孔 径 摄 影 物 镜

E.F.L=100

B.F.L=6.89

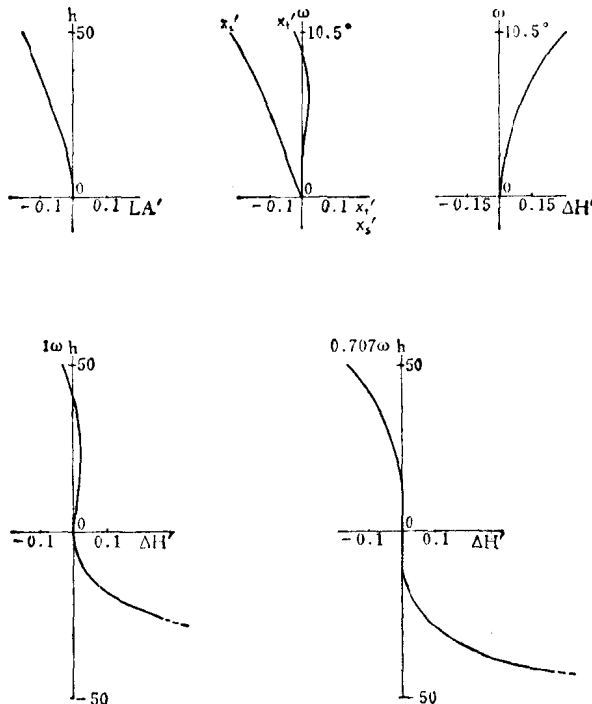
FNo. = 1

F.A. = $\pm 10.5^\circ$ 

序号	r	d	n	v	序号	r	d	n	v
1	152.6	15.4	1.699	30.0	7	957.4	9.5	1.795	28.4
2	537.2	0.2			8	26.9	12.4*		
3	108.1	27.8	1.694	53.4	9	65.0	6.4	1.603	60.7
4	-259.1	3.4	1.728	28.7	10	26.7	31.4	1.788	50.5
5	179.2	0.8			11	-386.3			
6	56.1	37.5	1.691	54.8					

12.4* = 8.0 + 4.4

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.13	-0.060	0.10	-0.28	0.50	18.17	1.66%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.15	0.30	-0.026	-0.22	0.194	3.05	0.41
70	-0.10	0.15	0.015	-0.15	0.165	0.44	0.077



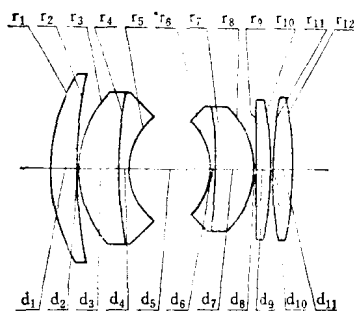
编号: 02-00-069

改进的高斯型物镜

E.F.L = 1

B.F.L = 0.575

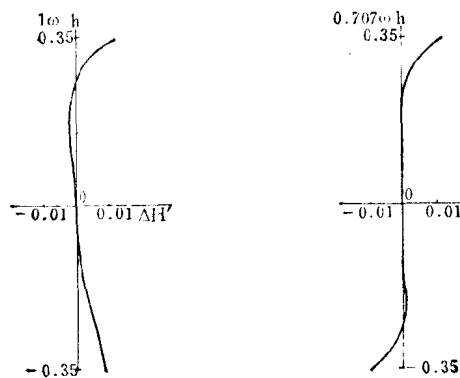
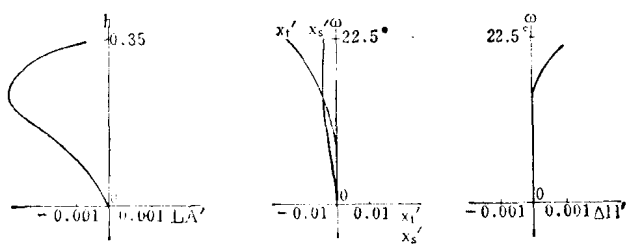
FNo. = 1.4

F.A. = $\pm 22.5^\circ$ **

序号	r	d	n _d	v	序号	r	d	n _d	v
1	0.7261	0.1141	1.65100	58.60	7	-2.5000	0.1550	1.69680	55.61
2	2.2821	0.0020			8	-0.3691	0.0020		
3	0.4591	0.1651	1.69680	55.61	9	-20.0000	0.0650	1.69350	53.51
4	2.5000	0.0340	1.60545	38.03	10	-1.5104	0.0020		
5	0.2733	0.3316*			11	2.2805	0.0750	1.69350	53.51
6	-0.2785	0.0220	1.70035	30.28	12	-1.6935		1	

$$0.3316^* = 0.1700 + 0.1616$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HJ	QP(1 ω)
	-0.0028	0.00018	0.00041	-0.0031	-0.000046	0.41	0.29%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.00074	0.0012	-0.015	-0.00407	-0.011	0.010	0.0026
70	-0.0031	0.000060	-0.0049	-0.00405	-0.00985	0.0011	0.00072



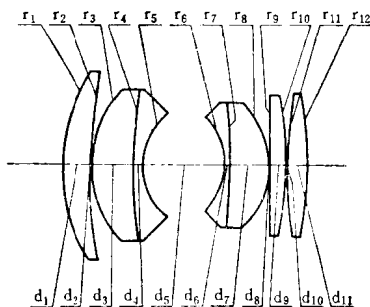
编号: 02-00-070

改进的高斯型物镜

E.F.L = 1

B.F.L = 0.562

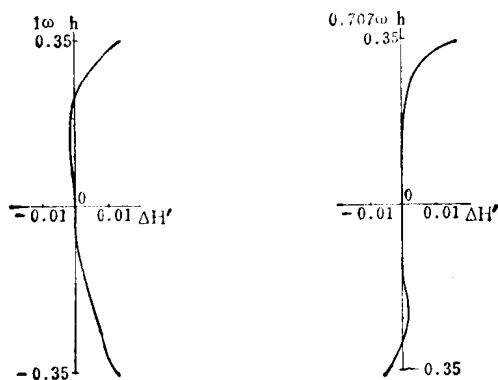
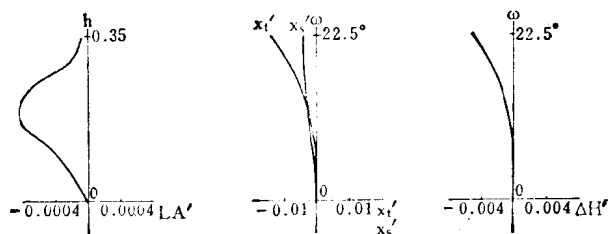
FNo. = 1.4

F.A. = $\pm 22.5^\circ$ **

序号	r	d	n_d	v	序号	r	d	n_d	v
1	0.7354	0.1330	1.65072	58.65	7	-6.2246	0.1454	1.69109	54.66
2	2.2884	0.0020			8	-0.3658	0.0341		
3	0.4568	0.1654	1.69109	54.66	9	7.4289	0.0661	1.69109	54.66
4	3.2679	0.0341	1.60936	39.70	10	-2.0712	0.0020		
5	0.2692	0.3362*			11	1.6893	0.0856	1.69109	54.66
6	-0.2813	0.0322	1.70059	30.27	12	-2.0400			

$$0.3362^* = 0.1700 + 0.1662$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0012	0.00040	0.00037	-0.0033	-0.0030	0.41	-1.15%
h 或 ω %	LA'	$\Delta H'$	λ_t'	λ_s'	$\lambda_t' - \lambda_s'$	K_{T1}	$K_{T0.7}$
100	-0.00014	-0.0047	-0.014	-0.0054	-0.009	0.013	0.0037
70	-0.00074	-0.0017	-0.0049	-0.0045	-0.00039	0.0058	0.0017



编号: 02-00-071

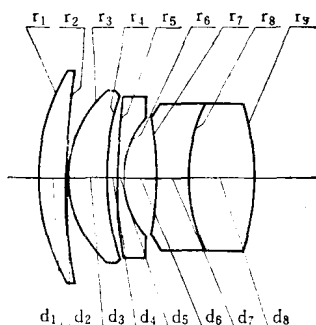
四组元大孔径摄影和电影摄影物镜

E.F.L=100

B.F.L=55.04

FNo.=2

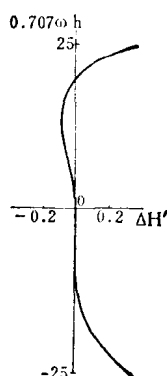
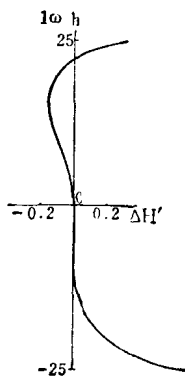
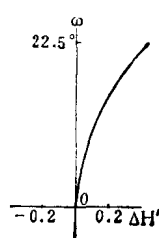
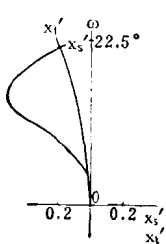
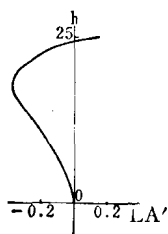
F.A.=±22.5°



序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	65.80	8.6	1.69100	54.8	6	26.85	9.6*		
2	200.00	0.2			7	-506.40	10.0	1.50048	66.0
3	35.98	12.0	1.69100	54.8	8	47.86	20.0	1.71300	53.9
4	87.46	3.0			9	-100.00			
5	166.90	2.0	1.72830	28.7					

9.6*=5.0+4.6

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1°)
	-0.16	-0.057	0.061	-0.26	0.31	41.12	1.07%
h 或 ω %	LA'	ΔH'	x ₁ '	x ₅ '	x ₁ ' - x ₅ '	K _{T1} '	K _{T0.7} '
100	0.12	0.44	-0.23	-0.17	-0.058	0.50	-0.030
70	-0.37	0.21	-0.13	-0.54	0.41	0.35	0.0025



编号: 02-00-072

八 片 式 高 斯 物 镜

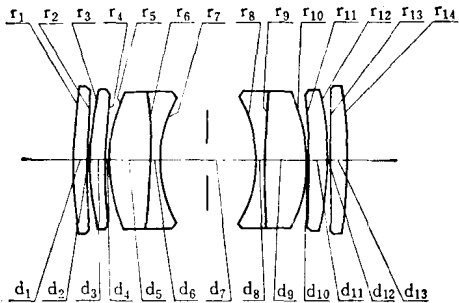
E.F.L=100

B.F.L=48.40

FN₀. =2.5

F.A. = ±10°**

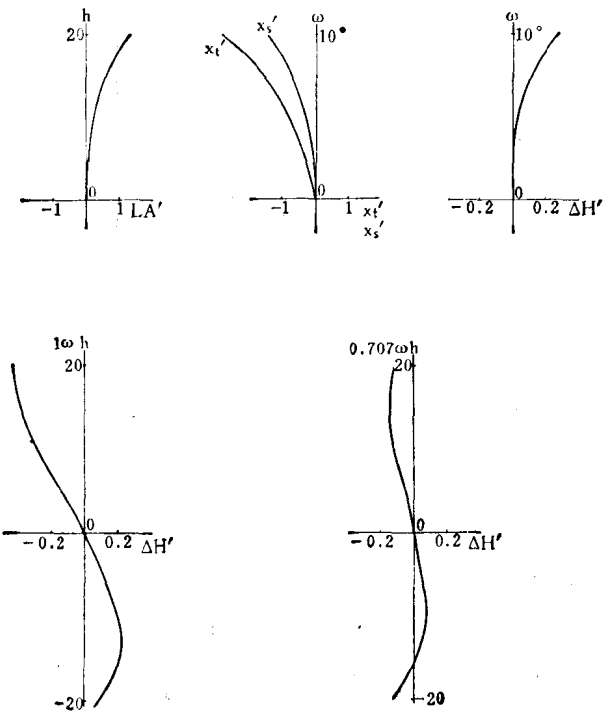
$l_1 = -\infty$



序号	r	d	n	v	序号	r	d	n	v
1	155.0	4.65	1.694	54.5	8	-36.6	2.25	1.704	34.7
2	6220.0	0.15			9	279.5	12.60	1.625	52.9
3	92.4	5.60	1.694	54.5	10	-46.7	0.15		
4	339.0	0.15			11	-339.0	5.60	1.694	54.5
5	46.7	12.60	1.625	52.9	12	-92.4	0.15		
6	-279.5	2.25	1.704	34.7	13	-6220.0	4.65	1.694	54.5
7	36.6	29.86*			14	-155.0			

29.86* = 14.93 + 14.93

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	0.082	-0.021	-0.045	-0.060	0.10	17.19	1.63%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	1.26	0.28	-2.73	-1.37	-1.36	-0.17	-0.076
70	0.57	0.094	-1.30	-0.68	-0.62	-0.12	-0.057



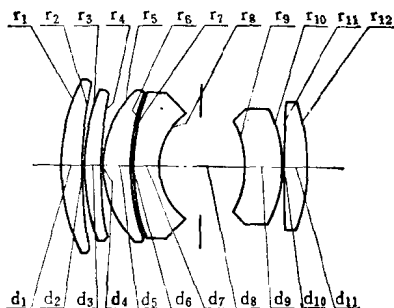
编号: 02-00-073

改进的高斯型摄影物镜

E.F.L=1

B.F.L=0.4473

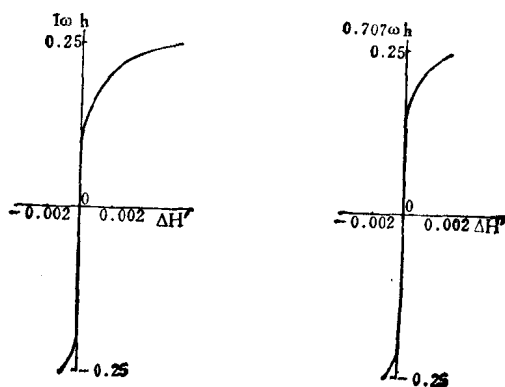
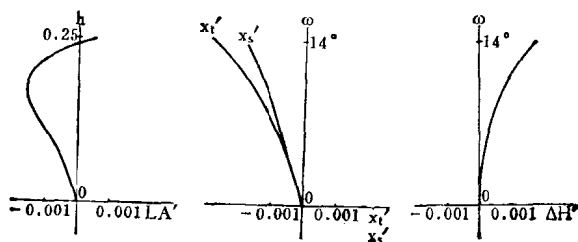
FNo.=2

F.A. = $\pm 14^\circ$ 

序号	r	d	n_e	v_e	序号	r	d	n_e	v_e
1	0.61825	0.05712	1.62287	60.06	7	0.62712	0.07734	1.70444	29.84
2	1.22468	0.00119			8	0.19409	0.25226*		
3	0.62269	0.05355	1.62287	60.06	9	-0.27813	0.10650	1.81262	25.28
4	1.12335	0.00119			10	-0.41918	0.00059		
5	0.30538	0.09043	1.62287	60.06	11	2.94622	0.06188	1.62287	60.06
6	0.66433	0.00119			12	-0.52012			

$$0.25226^* = 0.08000 + 0.17226$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.00077	-0.00012	0.0000063	-0.00041	0.0010	0.24	0.72%
h 或 ω %	LA'	$\Delta H'$	x'_1	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.00049	0.0017	-0.0029	-0.0019	-0.0010	0.0025	0.00045
70	-0.0016	0.00070	-0.0015	-0.0013	-0.00018	0.00093	0.00011



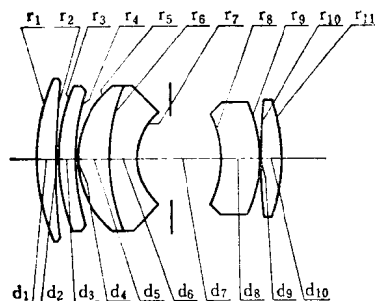
编号: 02-00-074

改进的高斯型摄影物镜

E.F.L=1

B.F.L=0.4448

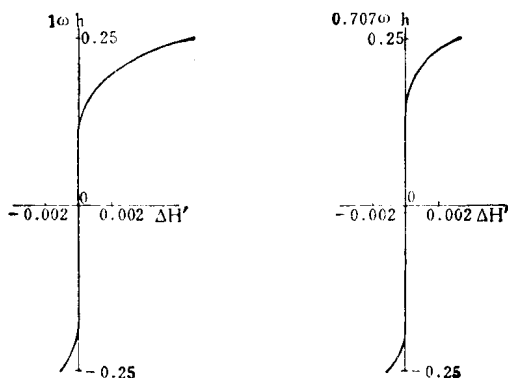
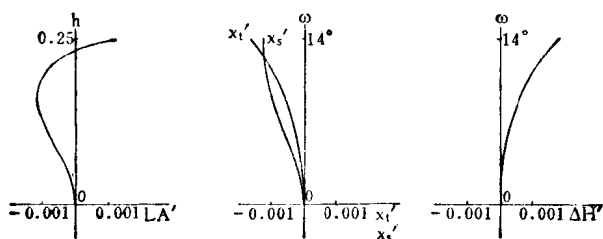
FNo.=2

F.A. = $\pm 14^\circ$ 

序号	r	d	n_e	v	序号	r	d	n_e	v
1	0.63752	0.05682	1.62287	60.06	7	0.19447	0.25272*		
2	2.10488	0.00118			8	-0.29519	0.11009	1.81262	25.28
3	0.66088	0.05327	1.62287	60.06	9	-0.44156	0.00059		
4	0.87496	0.00118			10	2.39619	0.05682	1.62287	60.06
5	0.29947	0.09233	1.62287	60.06	11	-0.54814			
6	0.63752	0.07812	1.70444	29.84					

$$0.25272^* = 0.08000 + 0.17272$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.00060	-0.00012	0.000074	-0.00012	0.00010	0.24	0.72%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{F1}^*	$K_{F0.7}^*$
100	0.0011	0.0017	-0.0016	-0.0013	-0.00023	0.0029	0.00055
70	-0.0011	0.00071	-0.00077	-0.0010	0.00030	0.0011	0.00015



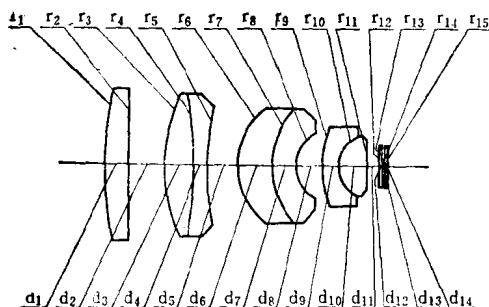
编号: 02-00-075

四组元大孔径物镜

E.F.L=1

B.F.L=0

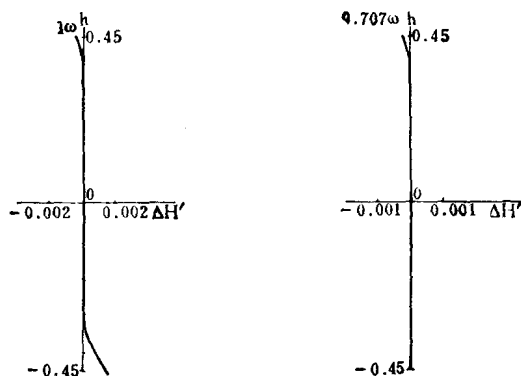
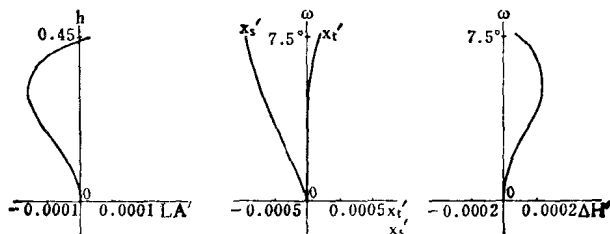
FNo.=1.1

F.A.= $\pm 7.5^\circ$ 

序号	r	d	n	v	序号	r	d	n	v
1	2.0800	0.14200	1.721	47.7	9	0.6210	0.08200	1.592	52.9
2	23.6000	0.21000			10	0.2035	0.17000	1.792	50.2
3	0.9870	0.18200	1.721	47.7	11	11.32	0.07580		
4	-2.0350	0.07800	1.813	25.3	12	∞	0.02800	1.516	64.1
5	1.7710	0.17800			13	∞	0.00536		
6	0.4350	0.19400	1.694	54.6	14	∞	0.01500	1.516	64.1
7	0.5410	0.14200	1.768	26.8	15	∞			
8	0.2260	0.15000*							

$$0.15000^* = 0.07500 + 0.07500$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.00025	-0.000043	0.00031	-0.0010	0.0010	0.13	0.048%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{t1}'	$K_{t0.7}'$
100	0.000015	0.000063	0.00016	-0.00095	0.0011	0.00069	-0.000050
70	-0.00016	0.00024	0.00069	-0.00071	0.00078	-0.000013	-0.000046



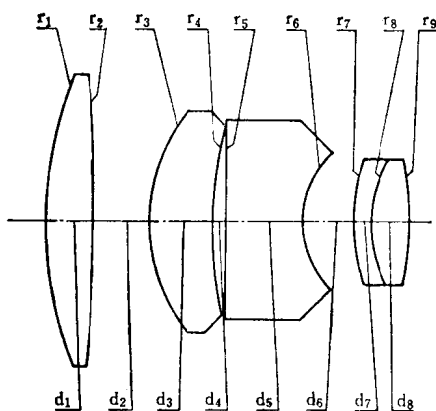
编号: 02-00-076

摄影物镜

E.F.L=100

B.F.L=35.54

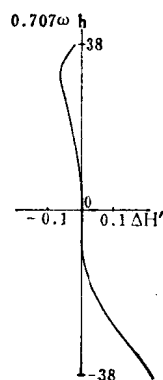
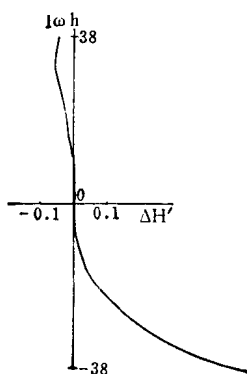
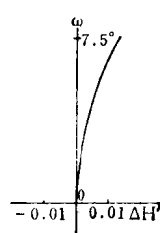
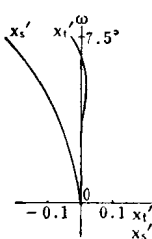
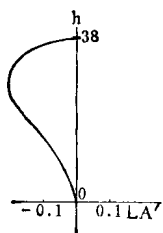
FNo.=1.3

F.A.= $\pm 7.5^{\circ}$ **

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	134.34	12.91	1.6229	60.1	6	31.33	15.30*		
2	-756.07	16.74			7	94.55	4.78	1.5198	51.9
3	50.45	20.80	1.6229	60.1	8	41.06	11.95	1.7919	47.2
4	141.80	3.11			9	-92.30			
5	∞	23.91	1.7918	25.9					

$$15.30^* = 7.00 + 8.30$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.19	0.011	0.044	-0.12	0.019	13.06	0.10%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.0013	0.013	-0.026	-0.23	0.20	0.24	0.077
70	-0.21	0.0072	0.0070	-0.12	0.13	0.097	0.033



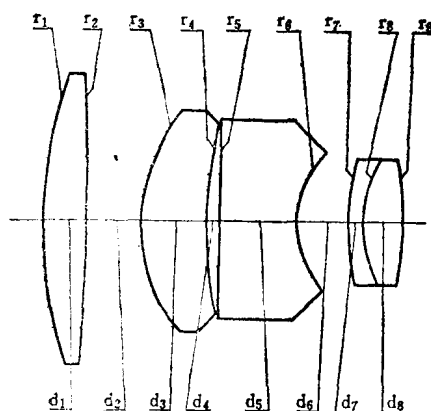
编号: 02-00-077

摄影物镜

E.F.L=100

B.F.L=35.30

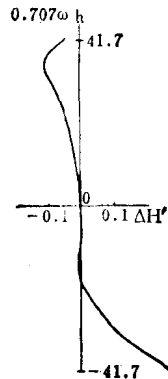
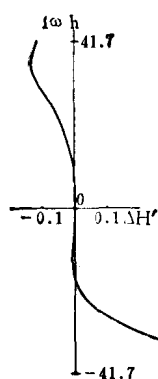
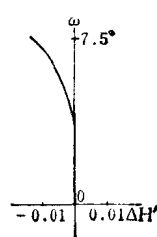
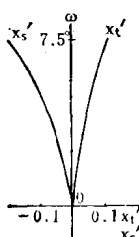
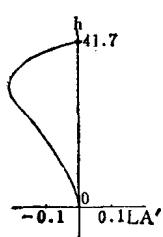
FNo.=1.2

F.A.= $\pm 7.5^{\circ}$ **

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	150.70	13.47	1.6998	55.4	6	32.68	15.97*		
2	-1226.05	17.47			7	84.83	4.99	1.5198	51.9
3	53.74	21.71	1.6543	58.3	8	42.84	12.48	1.7919	47.2
4	140.32	3.24			9	-93.01			
5	∞	24.95	1.7918	25.9					

15.97* = 7.00 + 8.97

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.22	-0.030	0.069	-0.15	0.0010	13.07	-0.10%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.01	-0.013	0.10	-0.20	0.30	0.29	0.033
70	-0.21	-0.0019	0.066	-0.11	0.17	0.11	0.0021



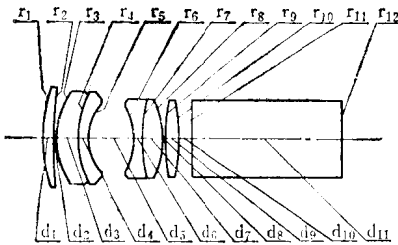
编号: 02-00-078

用于彩色摄影的附加物镜

E.F.L = 100

B.F.L = 13.91

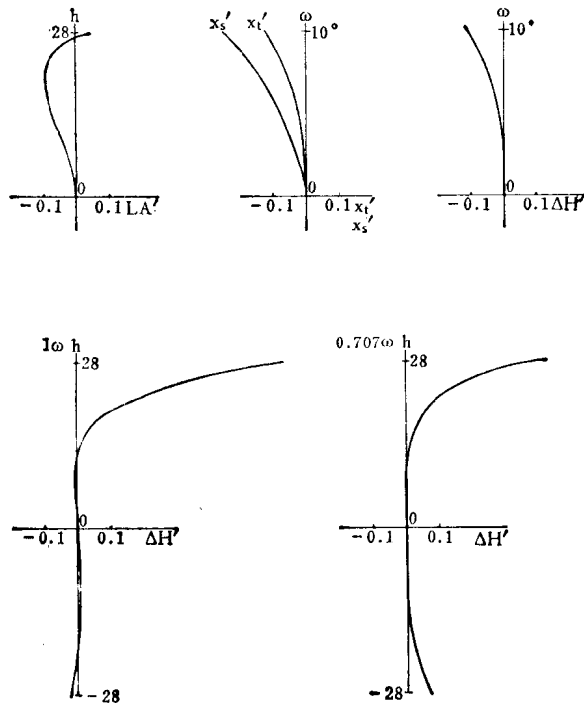
FNo. = 1.8

F.A. = $\pm 10^\circ$ 

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	94.10	7.10	1.780	37.6	7	180.80	12.15	1.716	53.7
2	323.00	0.30			8	-49.30	0.30		
3	49.90	12.15	1.694	54.5	9	225.20	8.45	1.732	54.5
4	60.35	5.80	1.652	33.6	10	-102.50	6.90		
5	31.55	27.20*			11	∞	91.20	1.694	54.5
6	-37.45	5.30	1.678	32.0	12	∞			

$$27.20^* = 13.60 + 13.60$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.057	-0.0022	0.013	-0.056	-0.063	17.19	-0.68%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.022	-0.11	-0.12	-0.25	0.13	0.30	0.038
70	-0.10	-0.041	-0.054	-0.132	0.078	0.25	0.037



编号: 02-00-079

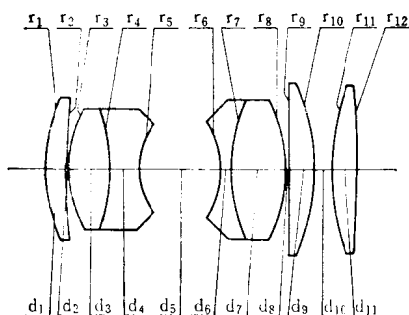
远 焦 点 物 镜

E.F.L=1

B.F.L=0.424

FN₀. =2

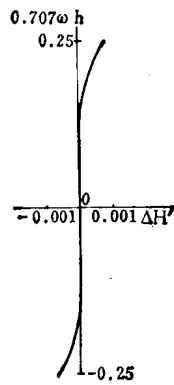
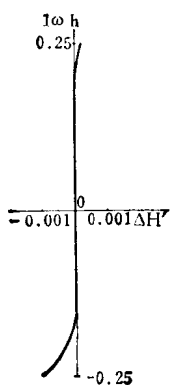
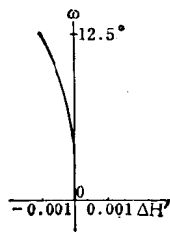
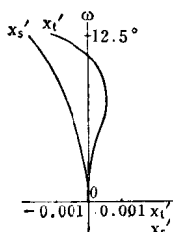
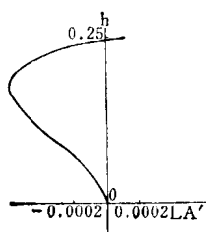
F.A. = ±12.5°**



序号	r	d	n _d	v	序号	r	d	n _d	v
1	0.6462	0.0867	1.691	54.8	7	0.7178	0.2070	1.691	54.8
2	2.7042	0.0010			8	-0.5333	0.0010		
3	0.4829	0.1510	1.691	54.8	9	-7.1736	0.0900	1.651	58.6
4	-0.8083	0.1068	1.700	41.2	10	-0.7853	0.0690		
5	0.2576	0.3124*			11	0.9960	0.0930	1.651	58.6
6	-0.2992	0.0400	1.648	33.8	12	-3.3146			

$$0.3124^* = 0.0500 + 0.2624$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1°)
	-0.00027	0.000013	0.00025	-0.00043	-0.00045	0.21	-0.49%
h 或 ω %	LA'	ΔH'	x _t '	x _s '	λ _t ' - λ _s '	K _{T1} '	K _{T0.7} '
100	0.00011	-0.0010	-0.0012	-0.0018	0.00070	-0.00047	-0.00014
70	-0.00059	-0.00034	0.00056	-0.0008	0.00136	0.000029	0.000035



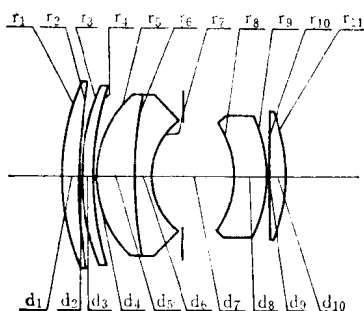
编号: 02-00-080

改进的高斯型摄影物镜

E.F.L=1

B.F.L=0.5345

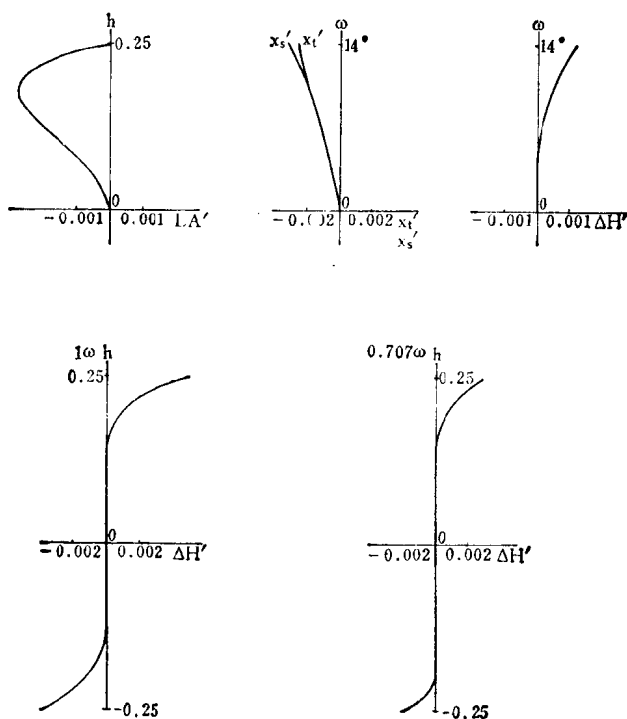
FNo.=2

F.A. = $\pm 14^\circ$ 

序号	r	d	n _d	v _d	序号	r	d	n _d	v _d
1	0.55202	0.05208	1.69100	54.80	7	0.21352	0.23553*		
2	0.95375	0.00059			8	-0.30375	0.08936	1.72825	28.34
3	0.57639	0.04616	1.69100	54.80	9	-0.47801	0.00059		
4	0.80828	0.00059			10	10.70056	0.06155	1.69100	54.80
5	0.34086	0.10770	1.69100	54.80	11	-0.52482			
6	1.90298	0.03847	1.66680	33.09					

$$0.23553^* = 0.10000 + 0.13553$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1%)
	-0.0012	-0.00014	-0.000015	-0.00053	0.00071	0.24	0.46%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{F1}	$K'_{T0.7}$
100	0	0.0011	-0.0025	-0.0028	0.00027	0.00067	0.00012
70	-0.0028	0.00046	-0.0018	-0.0018	0.0000	-0.0000024	-0.000081



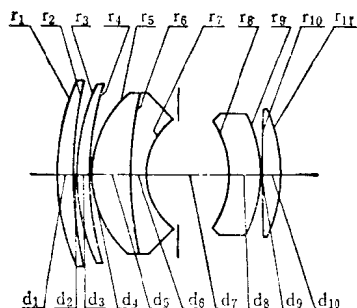
编号: 02-00-081

改进的高斯型摄影物镜

E.F.L=1

B.F.L=0.4934

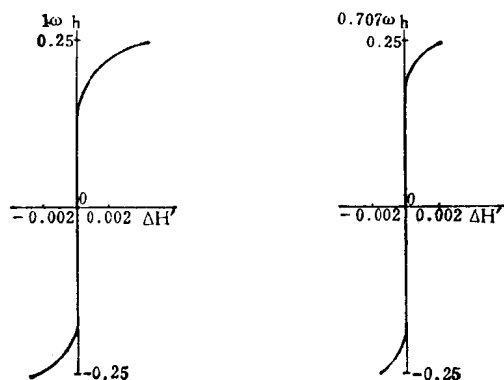
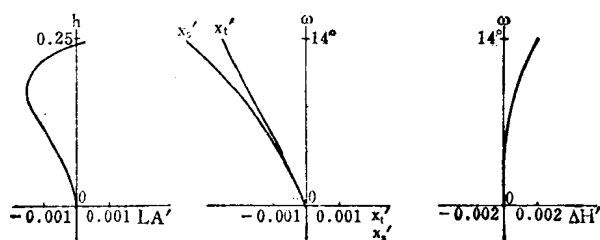
FNo.=2

F.A.= $\pm 14^\circ$ 

序号	r	d	n_d	v_d	序号	r	d	n_d	v_d
1	0.74046	0.05378	1.62041	60.29	7	0.21479	0.25122*		
2	1.70593	0.00119			8	-0.31907	0.10120	1.78472	25.51
3	0.68906	0.04167	1.62041	60.29	9	-0.45729	0.00060		
4	1.02103	0.00119			10	3.16788	0.05715	1.62041	60.29
5	0.33074	0.11906	1.69100	54.80	11	-0.60101			
6	1.27493	0.05001	1.66096	32.83					

$$0.25122^* = 0.10000 + 0.15122$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.00070	-0.00013	0.000046	-0.00070	0.0011	0.24	0.84%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.00025	0.0020	-0.0025	-0.0036	0.0011	0.00088	0.000073
70	-0.0015	0.00078	-0.0018	-0.0022	0.00045	0.00010	-0.000078



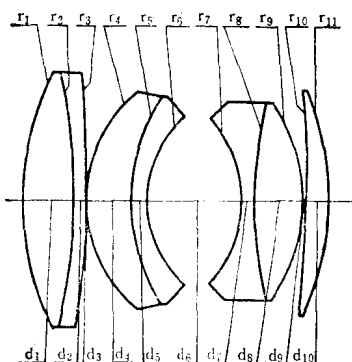
编号: 02-00-082

摄影物镜

E.F.L=1

B.F.L=0.684

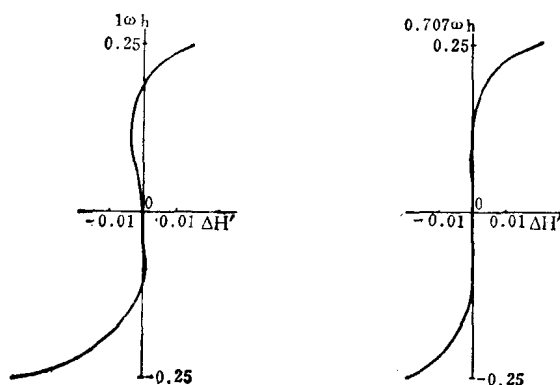
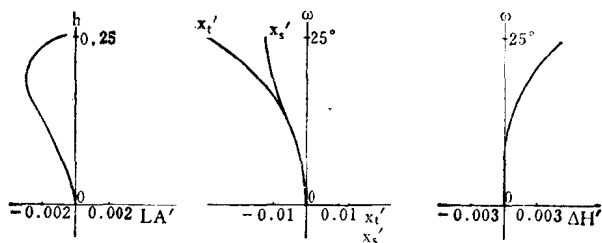
FNo.=2

F.A.= $\pm 25^\circ$ 

序号	r	d	n_D	v	序号	r	d	n_D	v
1	0.6886	0.108	1.5338	55.4	7	-0.2823	0.030	1.5673	42.8
2	-1.2296	0.030	1.6727	32.2	8	0.8853	0.108	1.6204	60.3
3	-19.5650	0.002			9	-0.3787	0.002		
4	0.3325	0.098	1.6700	47.2	10	-19.5650	0.049	1.6074	56.7
5	0.4623	0.030	1.6645	35.9	11	-0.6709			
6	0.2351	0.207*							

$$0.207^* = 0.091 + 0.116$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1%)
	-0.0012	-0.000048	0.00039	-0.0031	0.0020	0.46	1.11%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-0.00073	0.0052	-0.031	-0.013	-0.018	-0.010	-0.0044
70	-0.0030	0.0016	-0.011	-0.0095	-0.0015	0.0010	-0.00067



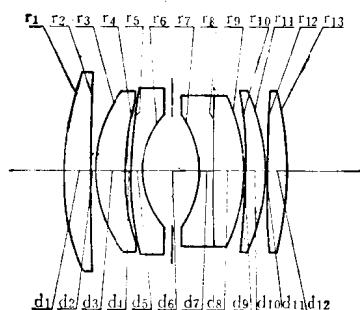
编号: 02-00-083

摄影物镜

E.F.L=1

B.F.L=0.734

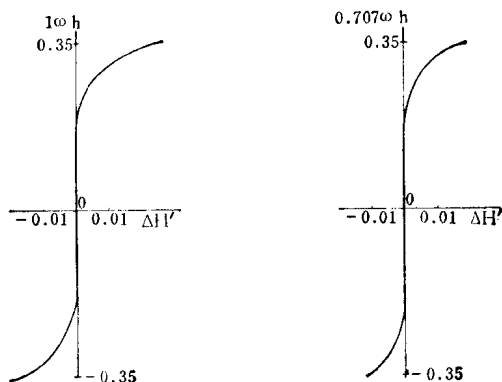
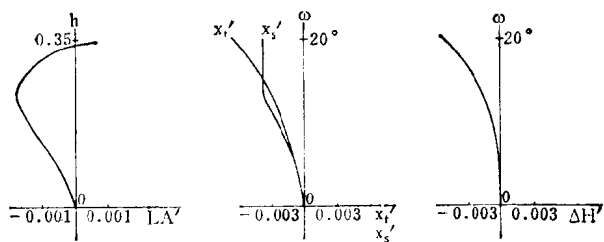
FNo.=1.4

F.A.= $\pm 20^\circ$ 

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	1.1331	0.1048	1.81500	45.2	8	4.9204	0.1237	1.80040	42.7
2	12.0000	0.0113			9	-0.7193	0.0019		
3	0.5136	0.1312	1.69400	54.6	10	-2.5179	0.0810	1.80040	42.7
4	1.0375	0.0160			11	-0.7525	0.0019		
5	1.6920	0.0451	1.63003	35.4	12	3.9626	0.0810	1.71615	53.7
6	0.3459	0.2286*			13	-1.2605			
7	-0.3895	0.0571	1.79180	25.9					

$$0.2286^* = 0.1100 + 0.1186$$

	ΣS_1	ΣS_2	ΣS_3	xS_4	ΣS_5	HI	QP (1 ω)
	-0.0019	0.000065	0.00037	-0.0029	-0.0037	0.36	-1.57%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{T1}^h	$K_{T0.7}^h$
100	0.00064	-0.0057	-0.0065	-0.0039	-0.0026	0.0039	0.00049
70	-0.0018	-0.0020	-0.0034	-0.0038	0.00047	0.0028	0.00048



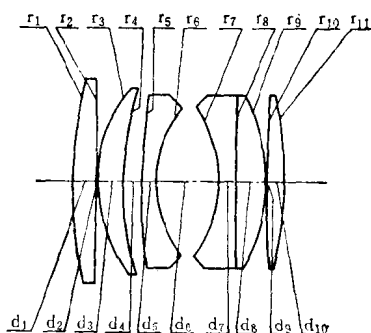
编号: 02-00-084

应用高折射率玻璃的摄影物镜

E.F.L = 100

B.F.L = 71.48

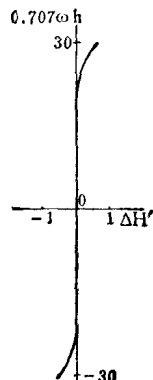
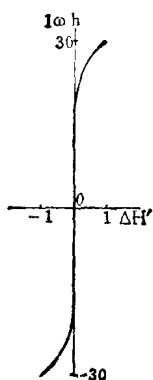
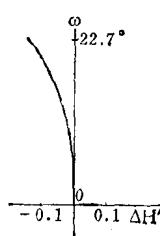
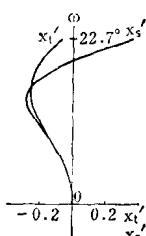
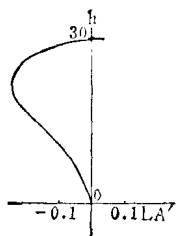
FNo. = 1.7

F.A. = $\pm 22.7^\circ$ 

序号	r	d	n	v	序号	r	d	n	v
1	139.28	6.99	1.81600	46.8	7	-38.37	4.82	1.66680	33.1
2	-16328.50	0.19			8	728.12	9.01	1.81600	46.8
3	44.89	7.99	1.81660	46.8	9	-52.83	0.19		
4	94.93	5.17			10	460.21	5.53	1.81600	46.8
5	205.55	4.73	1.72825	28.3	11	-109.11			
6	34.83	18.98*							

18.98* = 9.98 + 9.00

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.15	-0.046	0.021	-0.22	-0.045	40.97	-0.35%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{t1}	$K'_{t0.7}$
100	0.026	-0.14	-0.070	0.360	-0.430	-0.10	0.013
70	-0.24	-0.045	-0.260	-0.268	0.0080	0.0077	-0.020



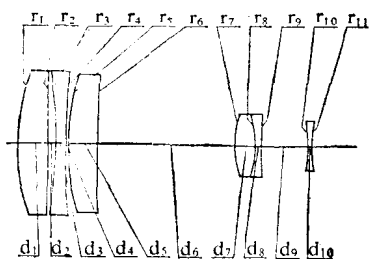
编号: 02-00-085

珀 兹 伐 型 物 镜

E.F.L=100

B.F.L=5.48

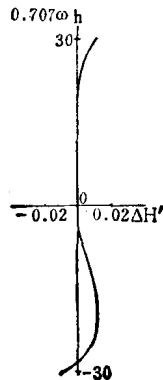
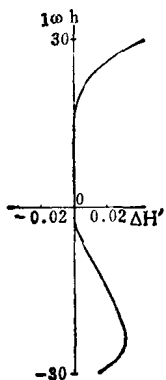
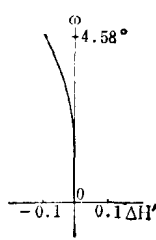
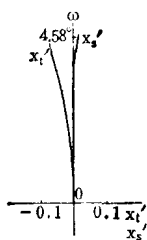
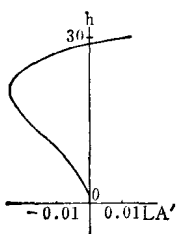
FNo.=1.7

F.A.= $\pm 4.58^{\circ}$ **

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	100.20	13.40	1.605	60.4	7	35.65	10.30	1.625	56.6
2	4070.00	4.26			8	-57.70	2.71	1.702	38.3
3	-196.20	4.57	1.792	25.9	9	201.50	21.80		
4	498.50	1.30			10	-72.20	1.55	1.813	25.2
5	112.00	13.70	1.625	56.6	11	64.70			
6	3190.00	80.50*							

80.50*=40.00+40.50

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.017	-0.00022	-0.0073	0.0059	-0.051	8	-1.12%
h 或 ω %	LA'	$\Delta H'$	x_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.012	-0.090	-0.082	0.0013	-0.081	0.023	0.013
70	-0.024	-0.031	-0.042	-0.0015	-0.041	0.0010	0.0028



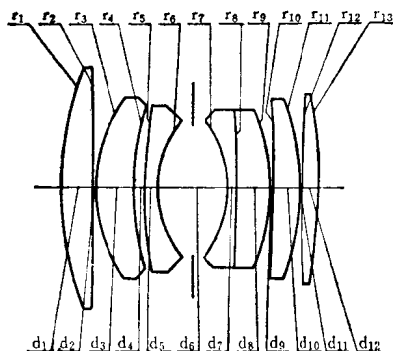
编号: 02-00-086

高斯型摄影物镜

E. F. L = 1

B. F. L = 0.6959

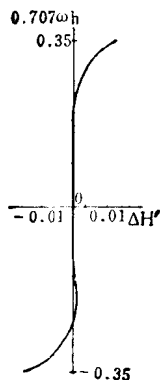
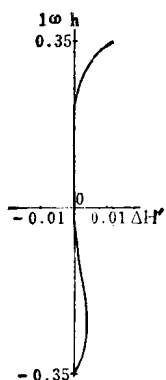
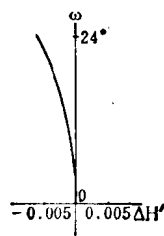
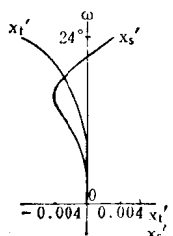
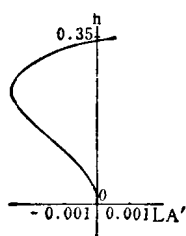
FNo. = 1.4

F. A. = $\pm 24^\circ$ 

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	1.15720	0.1044	1.72055	47.69	8	-7.84738	0.1149	1.78868	43.62
2	-76.27345	0.0019			9	-0.57576	0.0010		
3	0.51319	0.1369	1.78868	43.62	10	-12.43738	0.0929	1.74795	44.49
4	0.98070	0.0306			11	-0.73012	0.0010		
5	1.75657	0.0440	1.72311	29.30	12	9.06032	0.0565	1.74795	44.49
6	0.35550	0.2346*			13	-1.73148			
7	-0.36599	0.0287	1.79180	25.90					

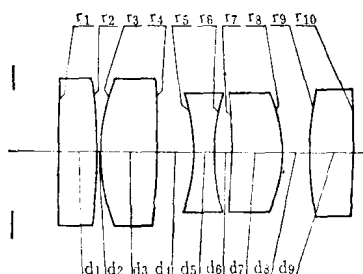
$$0.2346^* = 0.1200 + 0.1146$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.0025	0.00042	0.0010	-0.0048	-0.0044	0.44	-1.37%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.00053	-0.0061	-0.0078	0.0031	-0.011	0.0050	0.0019
70	-0.0025	-0.0025	-0.0020	-0.0040	0.0020	-0.0019	0.00062



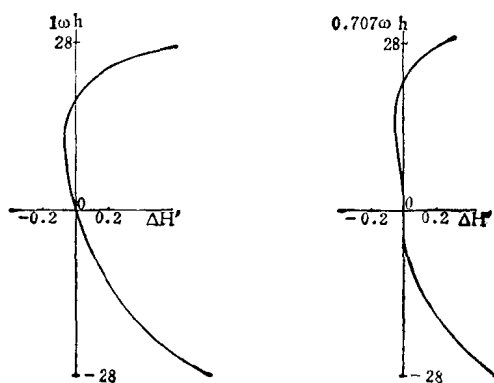
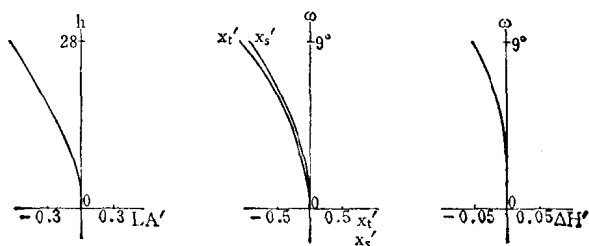
编号: 02-00-087

用于摄影、电影摄影和放映的物镜

E. F. L = 100 B. F. L = 45.26 FNo. = 1.8 F. A. = $\pm 9^\circ$ ** $L'_{p1} = -18.9$ 

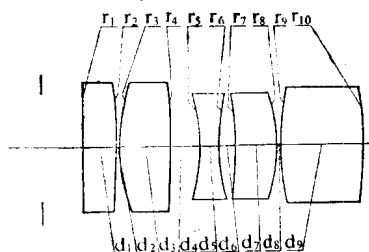
序号	r	d	n_d	v	序号	r	d	n_d	v
1	∞	18.9*			6	95.61	7.5		
2	-230.34	1.5	1.62	58	7	-159.36	19.6	1.66	57
3	81.00	23.4	1.70	56	8	-62.21	11.7		
4	-368.11	14.6			9	129.61	17.7	1.71	54
5	-82.12	8.3	1.76	28	10	-301.34			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.15	0.016	-0.016	-0.13	-0.030	16.20	-0.32%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.61	-0.052	-1.12	-0.93	-0.19	0.72	0.20
70	-0.41	-0.019	-0.57	-0.47	-0.10	0.40	0.10



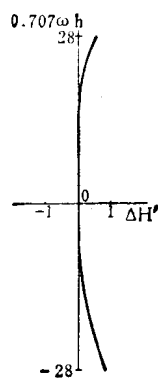
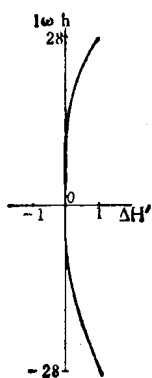
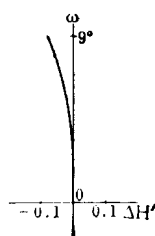
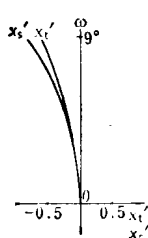
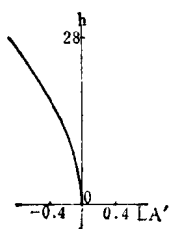
编号: 02-00-088

用于摄影、电影摄影和放映的物镜

E. F. L = 100 B. F. L = 46.3 FNo. = 1.8 F. A. = $\pm 9^\circ$ ** $L'_{p1} = -19.1$ 

序号	r	d	n_d	v	序号	r	d	n_d	v
		19.1*							
1	∞	15.3	1.62	58	6	96.88	7.6		
2	-233.41	1.5			7	-161.47	19.9	1.66	57
3	91.72	23.7	1.70	56	8	-70.75	1.5		
4	-245.34	14.1			9	149.80	38.2	1.71	54
5	-83.21	8.4	1.76	28	10	-164.70			

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.18	0.067	0.0071	-0.13	-0.043	16.25	-0.47%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{f1}	$K'_{f0.7}$
100	-0.82	-0.077	-0.64	-0.78	0.14	1.02	0.35
70	-0.52	-0.027	-0.34	-0.39	0.05	0.63	0.21



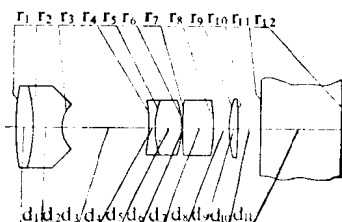
编号: 02-00-089

彩色摄影物镜

E. F. L = 1

B. F. L = 0.177

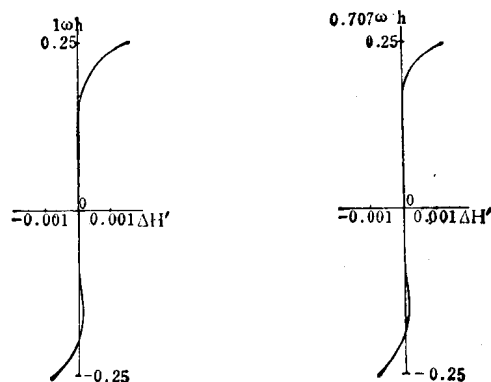
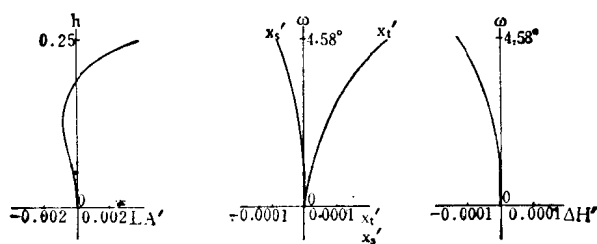
FNo. = 2

F. A. = $\pm 4.58^{\circ}$ **

序号	r	d	n_e	v_e	序号	r	d	n_e	v_e
1	4.1350	0.425	1.802	28.2	7	7.0940	0.755	1.623	60.1
2	-3.4300	0.641	1.625	56.6	8	-3.2850	0.385		
3	0.7706	2.009*			9	2.7940	0.149	1.623	60.1
4	-7.4060	0.189	1.813	25.3	10	-10.3100	0.551		
5	1.8870	0.566	1.625	57.9	11	∞	1.887	1.694	54.5
6	-1.8870	0.016			12	∞			

$$2.009^* = 1.609 + 0.400$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.00058	-0.0000027	0.000022	-0.000032	-0.000069	0.08	-0.17%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{T1}^t	$K_{T0.7}^t$
100	0.0038	-0.00013	0.00025	-0.000084	0.00033	0.00032	0.000063
70	-0.00046	-0.000048	0.00013	-0.000041	0.00017	0.00023	0.000043



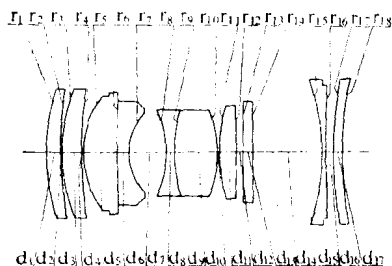
编号: 02-00-090

改进的高斯型物镜

E. F. L = 101

B. F. L = 1.04

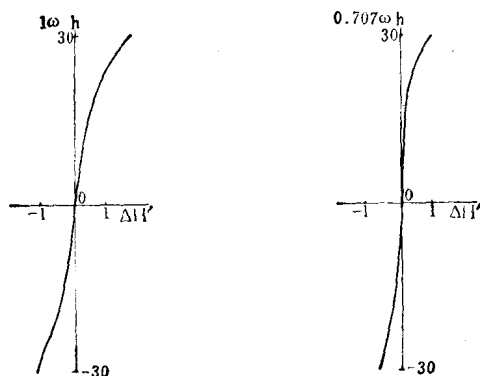
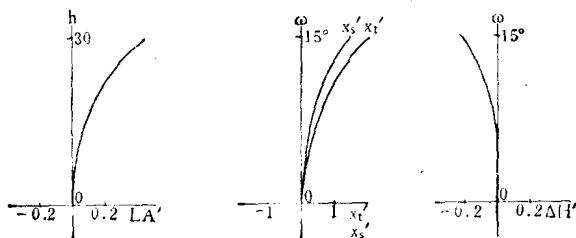
FNo. = 1.7

F. A. = $\pm 15^\circ$ 

序号	r	d	n_e	v_e	序号	r	d	n_e	v_e
1	98.26	6.60	1.623	60.1	10	-52.61	0.09		
2	223.40	0.09			11	80.31	8.25	1.673	46.8
3	80.61	9.45	1.623	60.1	12	-818.00	3.00		
4	268.10	0.36			13	∞	4.50	1.542	59.4
5	41.82	16.06	1.694	54.5	14	∞	32.00		
6	929.50	5.55	1.813	25.3	15	-102.50	1.80	1.624	66.1
7	26.72	17.26*			16	403.70	3.00		
8	-47.48	3.75	1.678	32.0	17	185.00	4.50	1.510	60.9
9	76.08	20.86	1.694	54.5	18	180.00			

17.26* = 9.00 + 8.26

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	0.044	-0.033	0.096	0.078	-0.086	27	-0.92%
h 或 ω %	LA'	$\Delta H'$	x'_1	x'_2	$x'_1 - x'_2$	k'_{t1}	$k'_{t0.7}$
100	0.46	-0.24	2.04	1.49	0.55	0.20	0.0045
70	0.17	-0.064	1.04	0.61	0.43	0.16	-0.0044



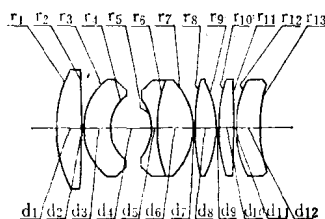
编号: 02-00-091

放 映 物 镜

E. F. L = 1

B. F. L = 0.5193

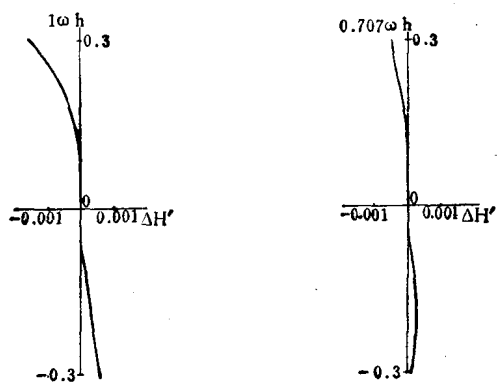
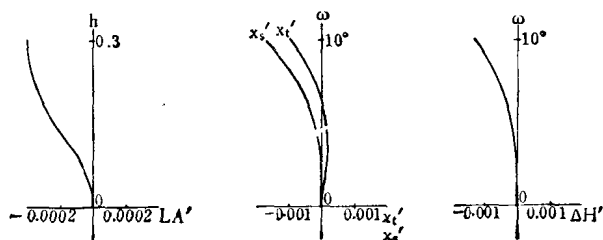
FNo. = 1.7**

F. A. = $\pm 10^\circ$ 

序号	r	d	n _e	v _e	序号	r	d	n _e	v _e
1	1.57124	0.24880	1.64304	59.86	8	3.51792	0.21986	1.64304	59.86
2	-14.72886	0.00254			9	-1.06540	0.00508		
3	0.61653	0.27369	1.81262	25.28	10	1.66467	0.15741	1.64304	59.86
4	0.39188	0.42957*			11	-30.24374	0.02540		
5	-0.43333	0.05332	1.81262	25.28	12	1.01310	0.23865	1.64304	59.86
6	1.41053	0.37321	1.64304	59.86	13	1.46232			
7	-0.71727	0.01676							

$$0.42957^* = 0.21000 + 0.21957$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.00017	0.000039	0.00018	-0.00047	-0.00082	0.17	-0.75%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	h'_{f1}	$K'_{f0.7}$
100	-0.00041	-0.0013	-0.0010	-0.0017	0.00071	-0.00058	-0.00017
70	-0.00035	-0.00048	-0.00011	-0.00084	0.00073	-0.00015	-0.000027



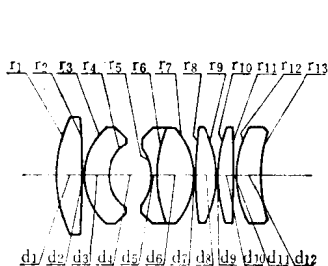
编号: 02-00-092

放 映 物 镜

E. F. L = 1

B. F. L = 0.5309

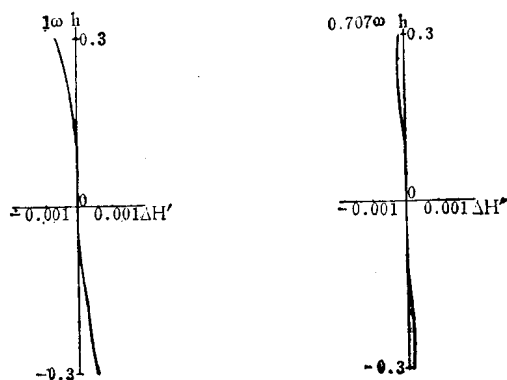
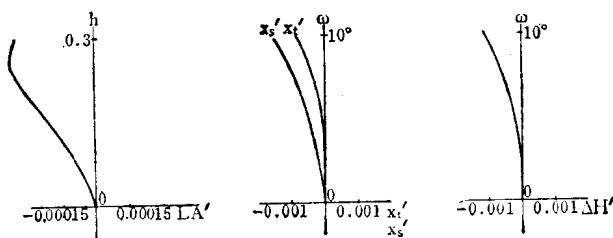
FNo. = 1.7**

F. A. = $\pm 10^\circ$ 

序号	r	d	n_e	v_e	序号	r	d	n_e	v_e
1	1.57084	0.20813	1.64304	59.86	8	11.52901	0.24874	1.64304	59.86
2	-18.81060	0.00254			9	-0.94238	0.00508		
3	0.61638	0.27057	1.81262	25.28	10	1.65211	0.17767	1.64304	59.86
4	0.39178	0.45078*			11	-6.29956	0.00254		
5	-0.42726	0.05076	1.81262	25.28	12	0.99848	0.26296	1.64304	59.86
6	1.82705	0.33148	1.64304	59.86	13	1.29367			
7	-0.71181	0.00254							

$$0.45078^* = 0.22000 + 0.23078$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.00017	0.000024	0.00015	-0.00043	-0.00075	0.175	-0.67%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{F1}	$K'_{F0.7}$
100	-0.00037	-0.0011	-0.00077	-0.0016	0.00083	-0.00010	-0.000025
70	-0.00033	-0.00043	-0.00015	-0.00079	0.00064	0.0000044	0.000012



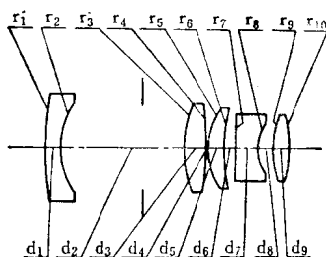
编号: 02-00-093

大孔径摄影或电影摄影物镜

E. F. L = 1

B. F. L = 0.7577

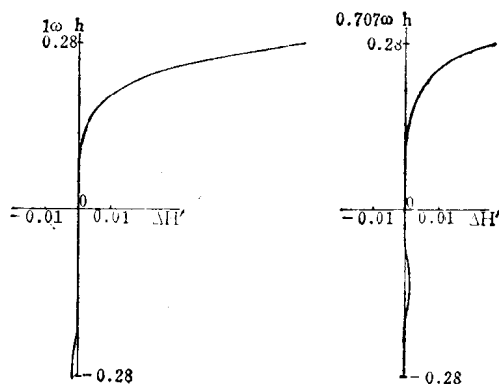
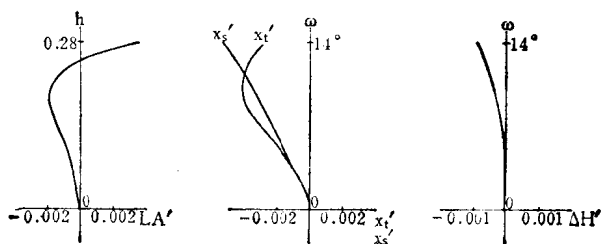
FNo. = 1.8

F. A. = $\pm 14^\circ$ 

序号	r	d	n_d	v	序号	r	d	n_d	v
1	2.369	0.160	1.504	66.7	6	1.761	0.105		
2	0.808	1.248*			7	∞	0.216	1.785	25.7
3	1.185	0.244	1.713	53.9	8	0.449	0.160		
4	-4.521	0.014			9	0.999	0.160	1.620	60.3
5	0.707	0.146	1.713	53.9	10	-1.367			

1.248* = 1.008 + 0.240

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1°)
	-0.0012	-0.0010	-0.00036	-0.00094	-0.00060	0.24	-0.33%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	0.0036	-0.00083	-0.0031	-0.0053	0.0022	0.035	0.0057
70	-0.0019	-0.00034	-0.0042	-0.0034	-0.00078	0.013	0.0015



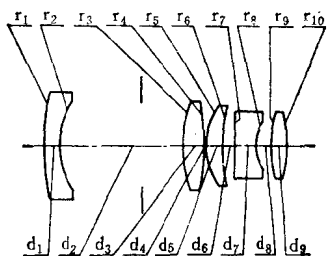
编号: 02-00-094

大孔径摄影或电影摄影物镜

E. F. L = 1

B. F. L = 0.80

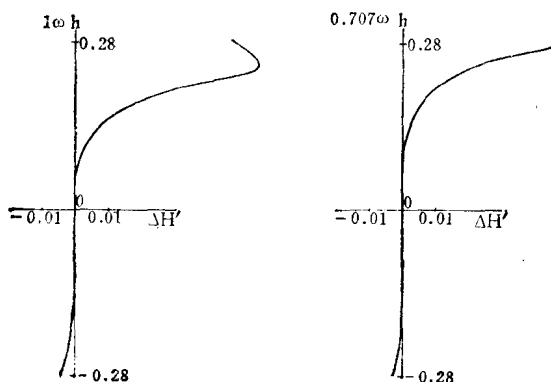
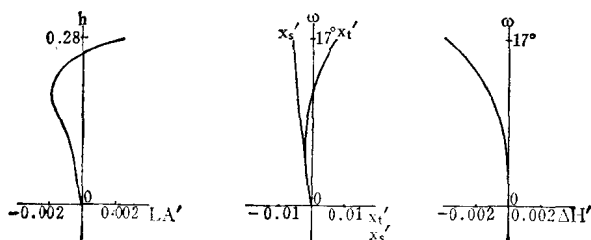
FNo. = 1.8

F. A. = $\pm 17^\circ$ 

序号	r	d	n_d	v	序号	r	d	n_d	v
1	1.569	0.162	1.504	66.7	6	2.920	0.116		
2	0.694	1.072*			7	-80.257	0.194	1.785	25.7
3	1.132	0.233	1.720	50.3	8	0.458	0.185		
4	-8.110	0.017			9	0.946	0.152	1.620	60.3
5	0.799	0.109	1.720	50.3	10	-1.175			

1.072* = 0.872 + 0.200

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0010	-0.00087	0.00011	-0.0019	-0.0019	0.30	-1.28%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	$K'_{1.1}$	$K'_{10.7}$
100	0.0023	-0.0038	0.0078	-0.0059	0.0127	0.021	0.013
70	-0.0018	-0.0012	-0.00075	-0.0045	0.0038	0.022	0.0039



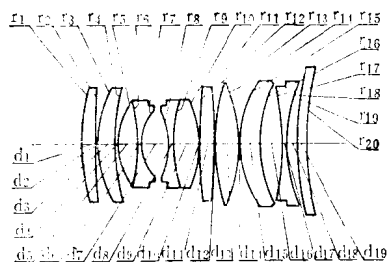
编号: 02-00-095

改进的红外高斯型物镜

E. F. L = 101

B. F. L = 0.80

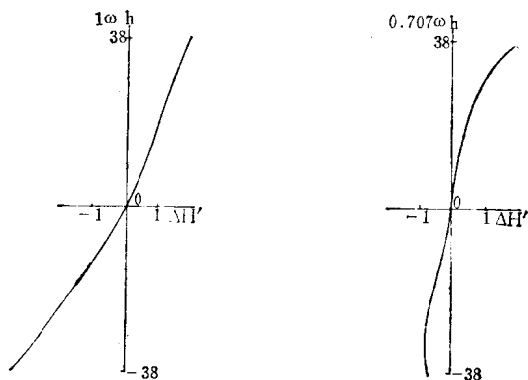
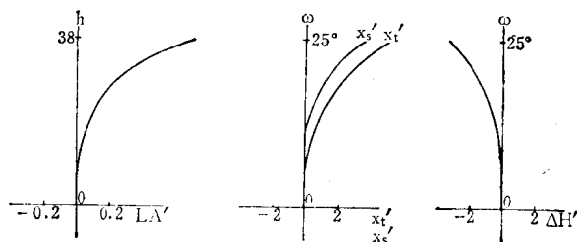
FNo. = 1.3

F. A. = $\pm 25^\circ$ 

序号	r	d	n_e	v_e	序号	r	d	n_e	v_e
1	166.81	12.2	1.720	47.7	11	470.00	12.2	1.716	53.7
2	596.00	0.4			12	-427.60	0.4		
3	94.10	14.7	1.720	47.7	13	184.10	20.4	1.716	53.7
4	188.80	0.4			14	-122.90	0.4		
5	54.48	17.1	1.706	40.8	15	86.60	16.3	1.716	53.7
6	-180.90	4.1	1.813	25.3	16	102.10	17.5		
7	38.02	20.6*			17	-272.40	4.1	1.813	25.3
8	-69.00	4.5	1.813	25.3	18	127.20	8.1		
9	146.40	19.5	1.792	50.2	19	246.00	6.7	1.512	63.1
10	-90.88	0.4			20	239.40			

$$20.6^* = 6.0 + 14.6$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	Hl	QP (1 ω)
	0.072	-0.11	0.33	-0.25	-1.93	46.35	-7.40%
h 或 ω %	LA'	\H'	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.72	-3.43	4.90	3.56	1.34	-0.68	-0.49
70	0.21	-1.11	1.87	0.88	0.99	0.64	0.0068



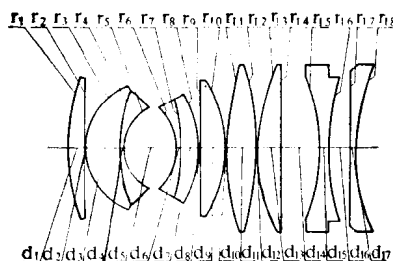
编号: 02-00-096

用于夜视仪器的物镜

E. F. L = 100

B. F. L = 0.398

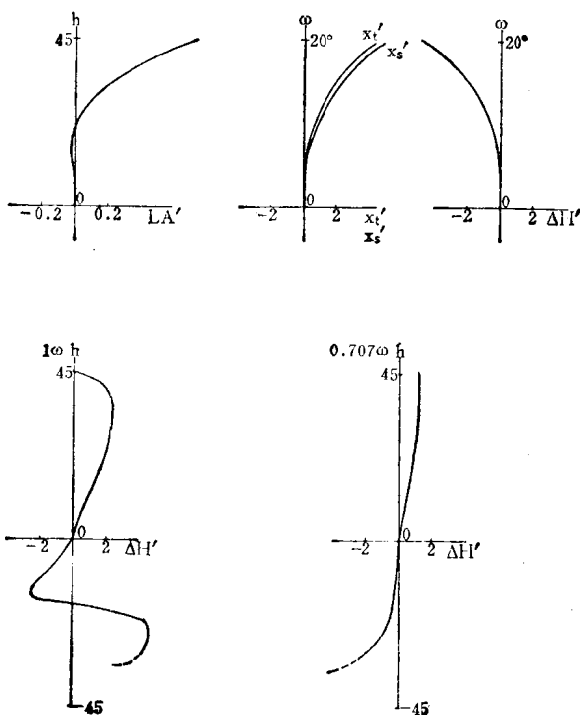
FNo. = 1.1

F. A. = $\pm 20^\circ$ 

序号	r	d	n_e	v_e	序号	r	d	n_e	v_e
1	124.50	10.00	1.768	26.7	10	-73.4	0.20		
2	553.00	0.20			11	170.30	17.00	1.748	44.5
3	39.44	20.80	1.886	40.8	12	-158.80	0.20		
4	94.80	1.90	1.928	21.3	13	113.20	14.23	1.748	44.5
5	26.60	30.30*			14	-2830.00	22.70		
6	-31.85	1.90	1.928	21.3	15	-114.60	4.70	1.928	21.2
7	-118.90	11.35	1.855	23.6	16	136.80	12.60		
8	-63.35	0.20			17	∞	3.10	1.510	61.0
9	-775.00	15.10	1.748	44.5	18	120			

30.30* = 17.00 + 13.30

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.087	0.49	-0.26	1.60	-3.12	35.60	-13.48%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.76	-4.80	4.24	4.63	-0.39		
70	0.18	-1.46	1.67	2.06	-0.39		-0.61



编号: 02-00-097

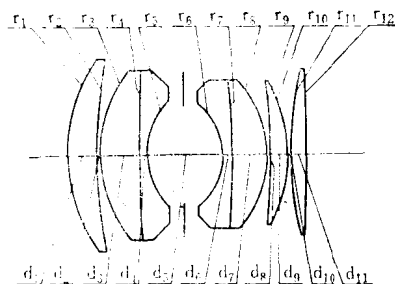
高 斯 型 物 镜

E. F. L = 1

B. F. L = 0.75

FN₀ = 1.4

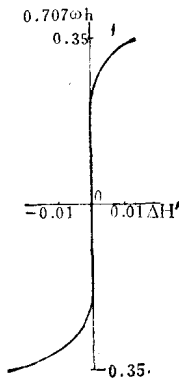
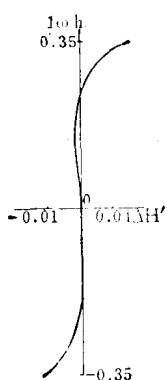
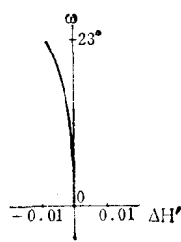
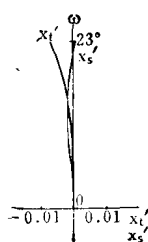
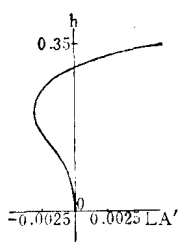
F. A. = ± 23°



序号	r	d	n _d	v	序号	r	d	n _d	v
1	0.7655	0.1260	1.66446	35.9	7	-3.8760	0.1647	1.71300	53.9
2	2.5053	0.0019			8	-0.4535	0.0039		
3	0.5736	0.1686	1.69350	53.4	9	-2.3256	0.0833	1.67790	55.5
4	12.4041	0.0329	1.64831	33.8	10	-0.6357	0.0019		
5	0.3240	0.3256*			11	1.5504	0.0620	1.71300	53.9
6	-0.2892	0.0407	1.69895	30.1	12	-16.8774			

$$0.3256^* = 0.1600 + 0.1656$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0034	0.00012	0.00050	-0.0020	-0.0055	0.42	-2.01%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{f1}	$K'_{f0.7}$
100	0.0068	-0.0085	-0.0071	0.00072	-0.0078	0.0015	0.000038
70	-0.0028	-0.0030	-0.0019	-0.0015	-0.00038	-0.0060	-0.00055



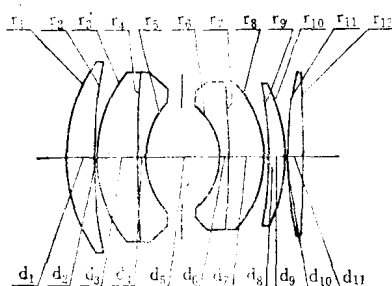
编号: 02-00-098

高斯型物镜

E. F. L = 1

B. F. L = 0.7455

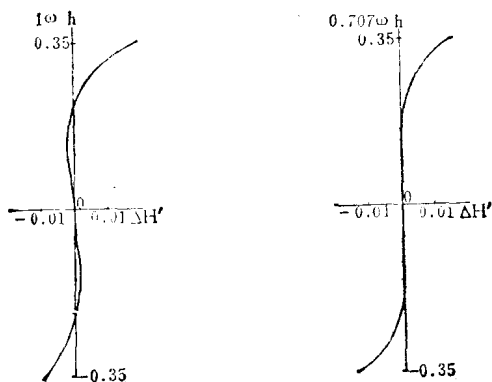
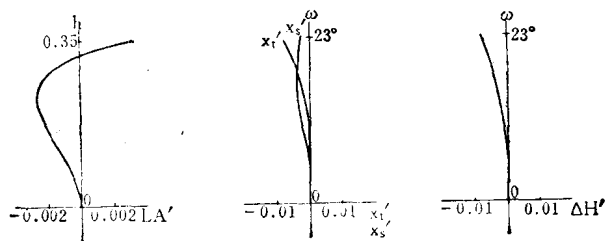
FNo. = 1.4

F. A. = $\pm 23^\circ$ 

序号	r	d	n _d	v	序号	r	d	n _d	v
1	0.8140	0.0930	1.74950	35.0	7	-8.5727	0.1647	1.67790	55.5
2	2.6512	0.0019			8	-0.4953	0.0058		
3	0.5620	0.1202	1.74400	44.9	9	-2.3256	0.0969	1.71300	53.9
4	2.7132	0.0659	1.69895	30.1	10	-0.6610	0.0019		
5	0.3341	0.3333*			11	1.5891	0.0620	1.71300	53.9
6	-0.3227	0.0465	1.71736	29.5	12	-8.9028			

$$0.3333^* = 0.1600 + 0.1733$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0028	0.00024	0.00073	-0.0031	-0.0048	0.42	-1.59%
h 或 $\omega\%$	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{r1}'	$K_{f0.7}'$
100	0.0033	-0.0067	-0.0083	-0.0031	-0.0052	0.0047	0.000047
70	-0.0027	-0.0025	-0.0025	-0.0035	0.0010	0.0015	0.00021



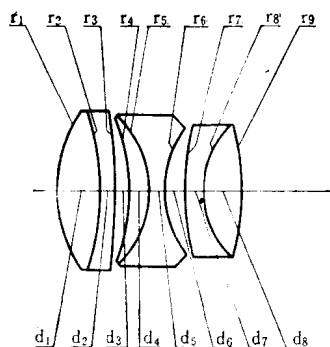
编号: 02-00-099

大 孔 径 物 镜

E. F. L = 100

B. F. L = 67.81

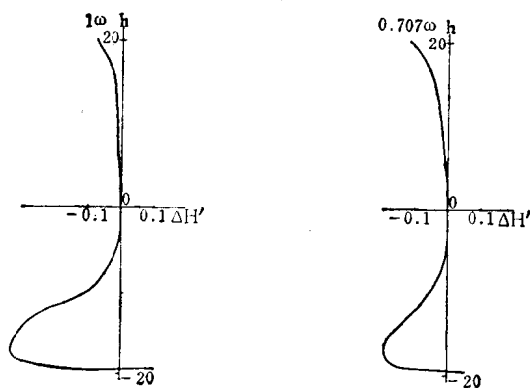
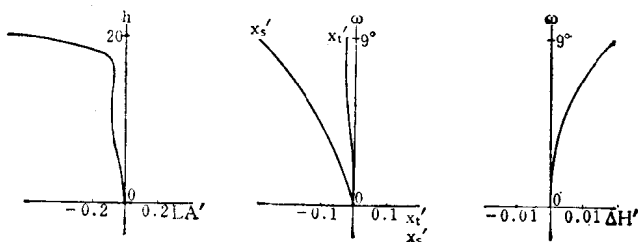
FNo. = 2.5

F. A. = $\pm 9^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	37.04	11.00	1.6233	58.1	6	28.96	5.62*		
2	-67.36	4.22	1.6122	37.3	7	69.82	4.68	1.5896	53.0
3	-354.50	3.60			8	22.86	10.30	1.6233	58.1
4	-61.12	5.62	1.6741	32.0	9	-88.28			
5	-27.56	3.74	1.58158	40.7					

$$5.62^* = 3.00 + 2.62$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP(1 ω)
	-0.046	-0.0048	0.011	-0.037	0.0087	16.13	0.12%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.72	0.020	-0.028	-0.30	0.27	1.43	-0.15
70	-0.078	0.0074	-0.021	-0.160	0.139	0.36	-0.093



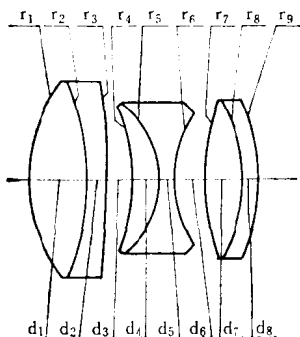
编号: 02-00-100

大 孔 径 物 镜

E. F. L = 100

B. F. L = 60.44

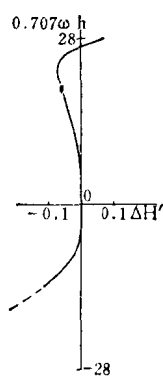
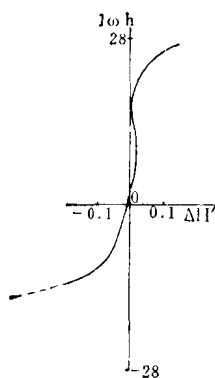
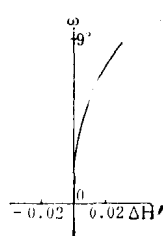
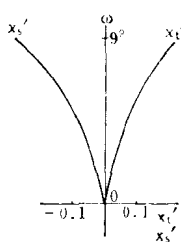
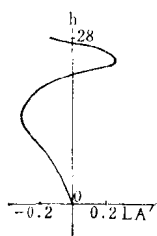
FNo. = 1.8

F. A. = $\pm 9^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	48.8	17.98	1.624	58.2	6	37.1	8.99*		
2	-69.3	5.72	1.622	36.1	7	81.7	11.44	1.624	58.2
3	-208.4	7.85			8	-47.8	4.09	1.541	47.2
4	-53.7	8.17	1.624	58.2	9	-63.9			
5	-27.6	4.90	1.567	42.8					

8.99* = 3.00 + 5.99

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1%)
	-0.30	0.0066	0.043	-0.089	0.017	16.22	0.20%
h 或 ω %	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{F1}'	$K_{F0.7}'$
100	-0.13	0.033	0.22	-0.27	0.49		-0.47
70	-0.22	0.011	0.12	-0.14	0.26		-0.28



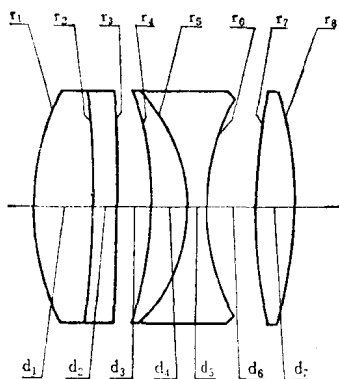
编号: 02-00-101

大 孔 径 物 镜

E. F. L = 100

B. F. L = 74.92

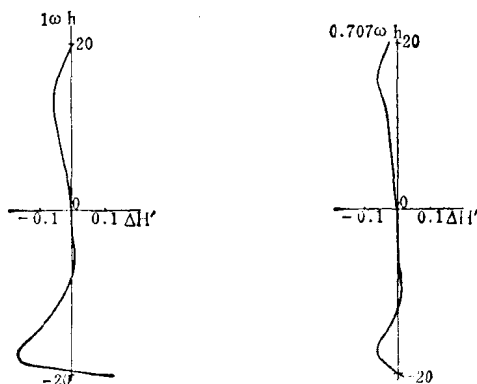
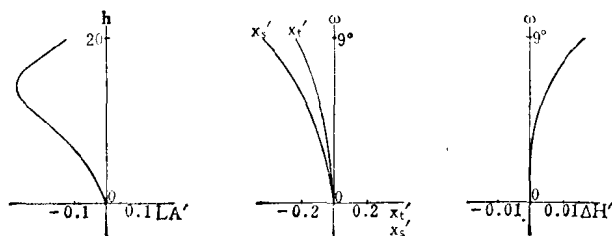
FNo. = 2.5

F. A. = $\pm 9^{\circ}$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	43.3	9.60	1.624	58.2	5	-27.8	3.20	1.567	42.8
2	-160.0	4.00	1.622	36.1	6	38.0	8.16*		
3	-560.0	5.84			7	95.2	6.40	1.624	58.2
4	-61.5	6.20	1.624	44.8	8	-65.4			

$$8.16^* = 2.16 + 6.00$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.086	0.0031	0.0077	-0.045	0.0073	16.14	0.10%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	k'_{11}	$k'_{10.7}$
100	-0.12	0.016	-0.23	-0.44	0.21	0.064	-0.061
70	-0.27	0.0062	-0.129	-0.23	0.10	-0.0049	-0.034



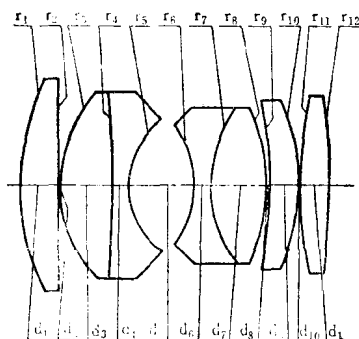
编号: 02-00-102

摄影物镜

E. F. L = 100

B. F. L = 53.65

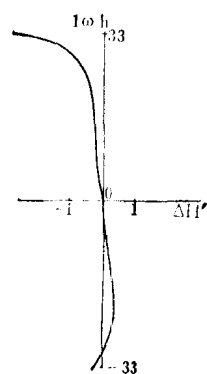
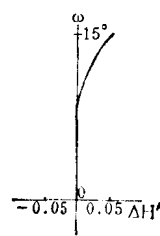
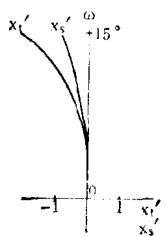
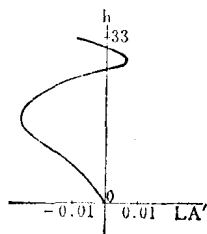
FNo. = 1.5

F. A. = $\pm 15^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	80.37	12.290	1.6202	60.4	7	43.50	18.910	1.6202	60.4
2	1068.50	0.378			8	-60.51	0.378		
3	45.39	17.020	1.6202	60.4	9	-176.80	9.455	1.6202	60.4
4	-387.60	5.673	1.5814	40.8	10	-71.20	0.378		
5	26.21	21.750*			11	139.9	9.455	1.6202	60.4
6	-33.19	5.673	1.5822	42.0	12	-191.00			

21.750* = 11.000 + 10.750

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.043	0.025	-0.019	-0.17	0.014	26.60	0.18%
h 或 ω	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$\sigma_{0.7}$
100	-0.0993	0.050	-2.10	-0.87	-1.23	-1.61	-0.039
70	-0.016	0.010	-0.74	-0.43	-0.31	-0.51	-0.026



编号: 02-00-103

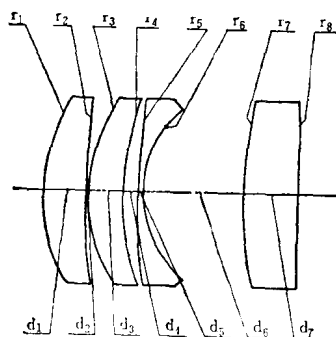
四 组 元 物 镜

E. F. L = 100

B. F. L = 49.711

FN₀ = 2

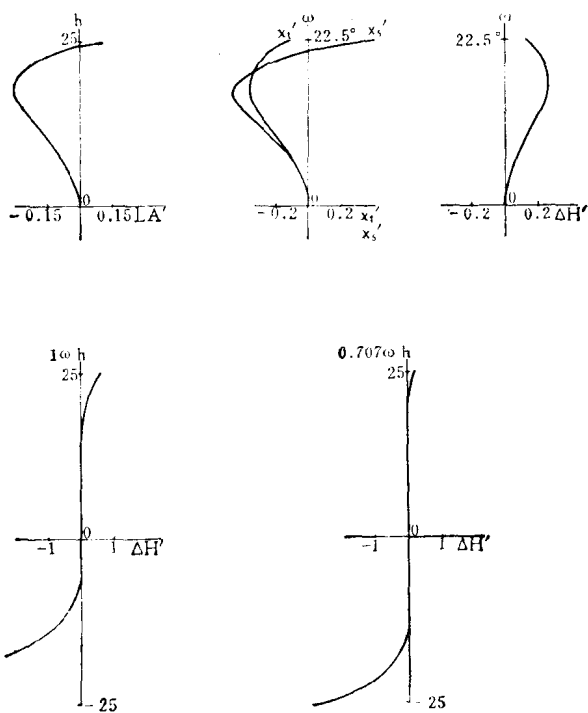
F. A. = ± 22.5°



序号	r	d	n _D	v	序号	r	d	n _D	v
1	41.155	9.6282	1.7359	51.4	5	172.479	1.1554	1.7686	26.3
2	153.450	0.1926			6	24.533	22.4142*		
3	35.861	8.0936	1.7369	51.4	7	98.823	12.0489	1.7546	34.7
4	57.796	3.0779			8	-372.074			

$$22.4142^* = 12.4142 + 10.0000$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.13	0.019	-0.0086	-0.21	0.56	41.20	0.33%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.10	0.13	-0.097	0.38	-0.48		-1.09
70	-0.30	0.27	-0.38	-0.48	0.10	-1.33	-0.14



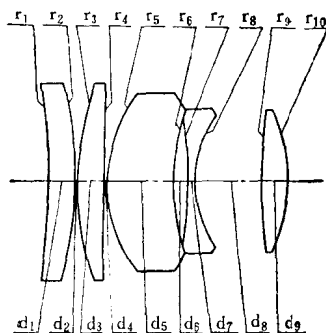
编号: 02-00-104

五片式物镜

E. F. L = 100

B. F. L = 60.1944

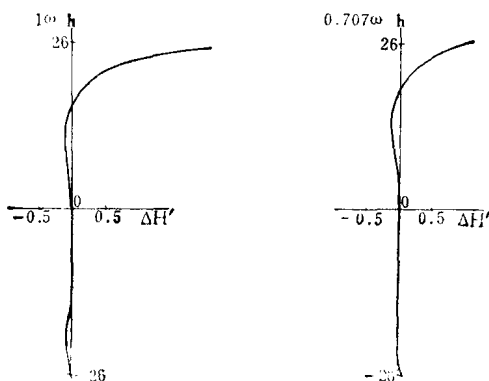
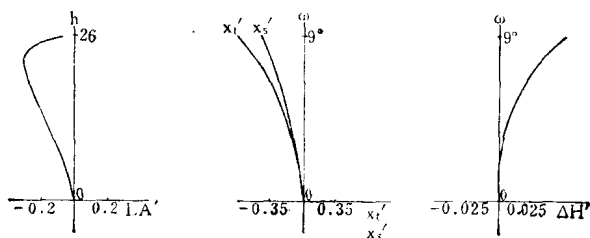
FNo. = 1.95

F. A. = $\pm 9^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	-179.3726	8.24519	1.6203	60.3	6	66.0858	4.75684		
2	-166.1365	0.21142			7	-147.2373	2.11415	1.7180	29.5
3	91.6120	8.13949	1.6203	60.3	8	34.5325	20.08444*		
4	-403.0888	0.52854			9	157.5050	8.45661	1.6203	60.3
5	44.9445	20.08444	1.6203	60.3	10	-48.4202			

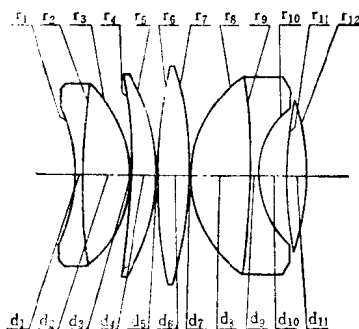
$$20.08444^* = 4.22830 + 15.85614$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.10	-0.085	-0.012	-0.058	0.027	16.13	0.32%
h 或 ω %	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{f1}	$K'_{f0.7}$
100	-0.076	0.052	-0.69	-0.48	-0.21	1.04	0.038
70	-0.28	0.018	-0.35	-0.25	-0.099	0.51	-0.024



编号: 02-00-105

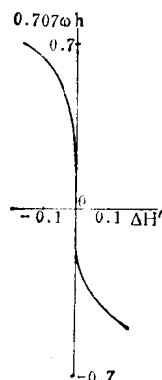
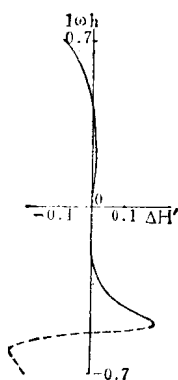
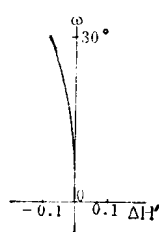
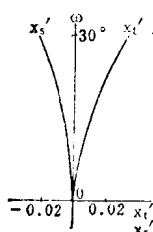
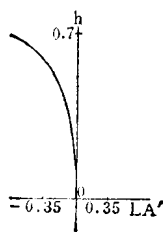
放 大 镜

E. F. L = 1 B. F. L = -0.0075 FNo. = 0.7 F. A. = $\pm 30^\circ$ $L_{p1}' = -0.3201$ $I_1 = -\infty$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
		0.3201*			7	-4.2921	0.0057		
1	-1.7541	0.0738	1.7919	25.8	8	1.3100	0.6812	1.74795	44.8
2	9.3903	0.5109	1.71616	53.8	9	-6.8029	0.0908	1.81265	25.4
3	-1.2965	0.0057			10	0.9826	0.3122		
4	-6.7268	0.2780	1.71616	53.8	11	4.8160	0.2214	1.74795	44.8
5	-2.1020	0.0057			12	-2.6137	1.1350		
6	5.7902	0.3520	1.71616	53.8					

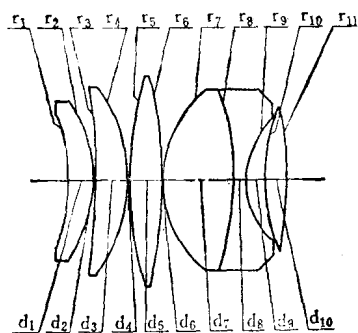
*此系出瞳距离。

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1%)
	-0.32	0.030	0.031	-0.060	-0.086	0.56	-13.41%
h 或 $\omega\%$	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{t1}'	$K_{r0.7}'$
100	-0.70	-0.076	0.032	-0.022	0.054		0.099
70	-0.19	-0.025	0.017	-0.013	0.030		0.068



编号: 02-00-106

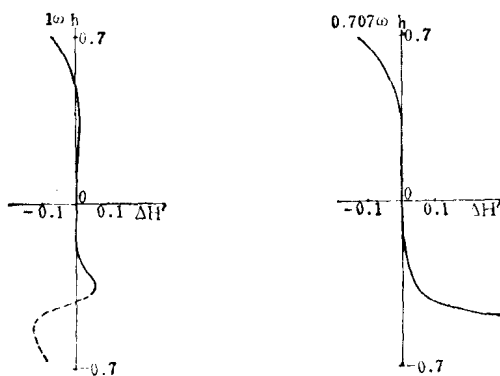
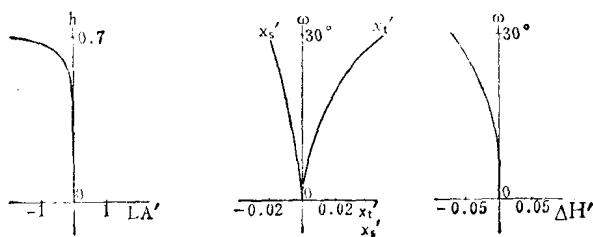
放 大 镜

E. F. L = 1 B. F. L = -0.23 FNo. = 0.7 F. A. = $\pm 30^\circ$ $L_{p1}' = -0.4982$ $l_1 = -\infty$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
		0.4982*			6	-5.2415	0.0080		
1	-2.1522	0.3278	1.74795	44.8	7	1.4263	0.8686	1.73688	51.7
2	-1.6198	0.0048			8	-3.2318	0.1359	1.7919	25.8
3	-7.4036	0.3918	1.74795	44.8	9	0.9538	0.2478		
4	-1.8597	0.0080			10	2.3413	0.2718	1.71616	53.8
5	4.3053	0.3997	1.71616	53.8	11	-4.7218	1.0400*		

* 此系出瞳距离。

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (%)
	-0.25	0.036	0.033	-0.061	-0.084	0.57	-13.25%
h 或 $\omega\%$	LA'	$\Delta H'$	x_t'	x_s'	$x_t' - x_s'$	K_{T1}'	$K_{T0.7}'$
100	-1.96	-0.075	0.050	-0.019	0.069		
70	-0.15	-0.025	0.023	-0.012	0.035		



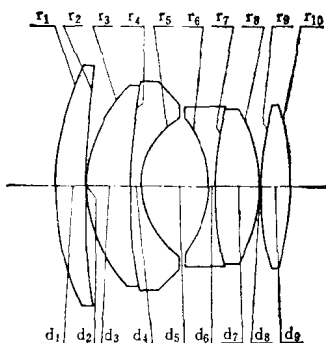
编号: 02-00-107

高 斯 型 物 镜

E. F. L = 1

B. F. L = 0.5178

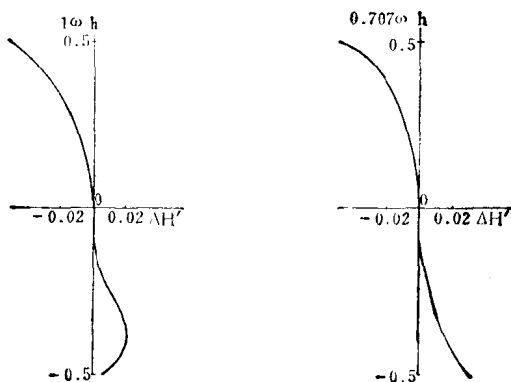
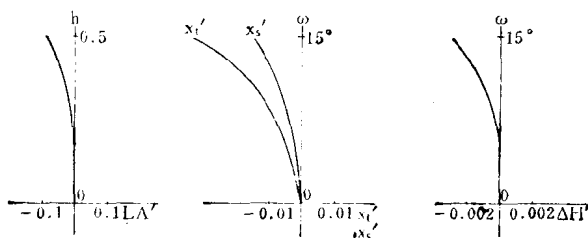
FNo. = 1

F. A. = $\pm 15^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	1.1506	0.1296	1.8206	45.0	6	-0.4429	0.0306	1.8427	30.0
2	4.5715	0.0006			7	1.3631	0.1785	1.9006	40.4
3	0.5664	0.2242	1.9006	40.4	8	-0.6550	0.0006		
4	2.3972	0.0412	1.7918	25.9	9	1.1652	0.1308	1.6940	54.5
5	0.3442	0.2860*			10	-1.0536			

$$0.2860^* = 0.1460 + 0.1400$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.030	0.0021	-0.0037	-0.0045	-0.0016	0.26	-1.12%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{F1}^*	$K_{F0.7}^*$
100	-0.092	-0.0029	-0.034	-0.015	-0.019	-0.022	-0.0014
70	-0.034	-0.00087	-0.0164	-0.0081	-0.0083	-0.0090	-0.00056



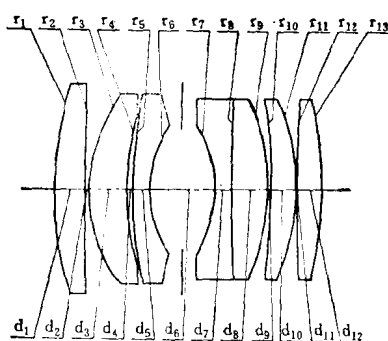
编号: 02-00-108

高斯型摄影物镜

E. F. L = 1

B. F. L = 0.733

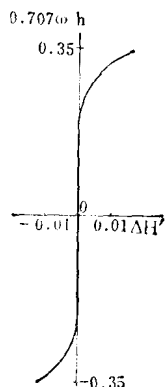
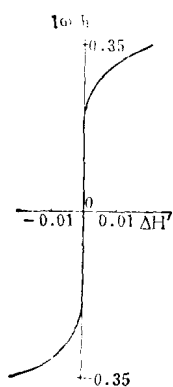
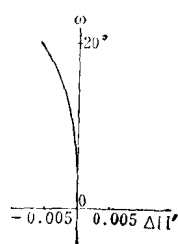
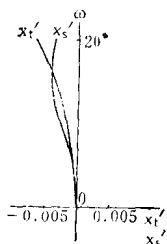
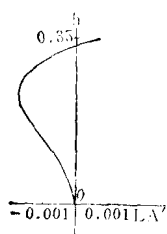
FNo. = 1.4

F. A. = $\pm 20^\circ$ 

序号	r	d	n_D	v	序号	r	d	n_D	v
1	1.1331	0.1048	1.81500	45.2	8	4.9204	0.1237	1.80040	42.7
2	12.0000	0.0113			9	-0.7193	0.0019		
3	0.5136	0.1312	1.69400	54.6	10	-2.5179	0.0810	1.80040	42.7
4	1.0375	0.0160			11	-0.7525	0.0019		
5	1.6920	0.0451	1.63003	35.4	12	3.9626	0.0810	1.71615	53.7
6	0.3459	0.2286*			13	-1.2605			
7	-0.3895	0.0571	1.79180	25.9					

$$0.2286^* = 0.1186 + 0.1100$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1%)
	-0.0019	0.00010	0.00037	-0.0029	-0.0036	0.36	-1.56%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{T1}	$K'_{T0.7}$
100	0.00064	-0.0057	-0.0063	-0.0037	-0.0026	0.00035	-0.000038
70	-0.0018	-0.0020	-0.0033	-0.0038	0.00047	0.0013	0.00025



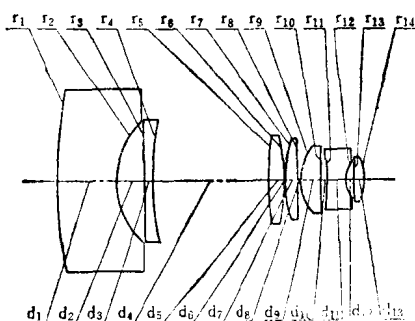
编号: 02-00-109

反 远 距 型 物 镜

E. F. L = 1.03

B. F. L = 0.84

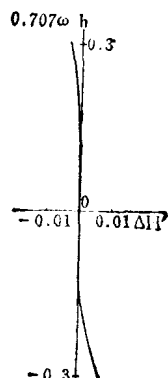
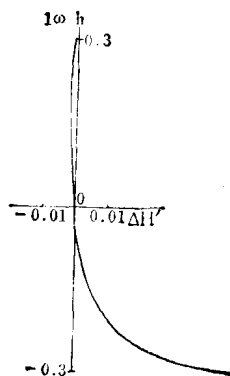
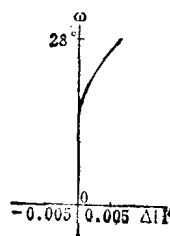
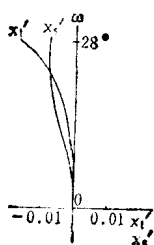
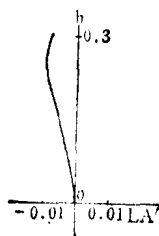
FNo. = 1.6

F. A. = $\pm 28^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	10.650	1.215	1.487	70.4	8	-24.784	0.015		
2	1.689	0.615			9	0.988	0.446	1.504	66.9
3	-20.931	0.169	1.518	65.1	10	13.517	0.108		
4	6.461	2.415			11	-4.626	0.431	1.785	26.1
5	4.541	0.323	1.518	65.1	12	0.668	0.154*		
6	-4.541	0.015			13	2.587	0.277	1.658	57.3
7	2.548	0.262	1.620	60.3	14	-1.093			

0.154* = 0.080 + 0.074

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HJ	QP (1 ω)
	-0.0034	-0.00030	0.00044	-0.0031	0.00072	0.54	1.11%
h 或 ω	LA'	$\Delta H'$	x'_t	x'_s	$x_t - x_s$	K'_{F1}	$K_{T0.7}$
100	-0.0088	0.0061	-0.0178	-0.0083	-0.0095	0.023	0.0049
70	-0.0079	0.0010	-0.0038	-0.0068	0.0030	0.0020	0.00027

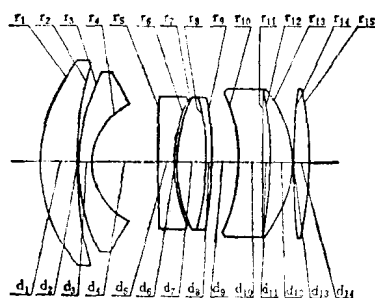


编号: 02-00-110

大孔径广角摄影镜头

E. F. L = 1

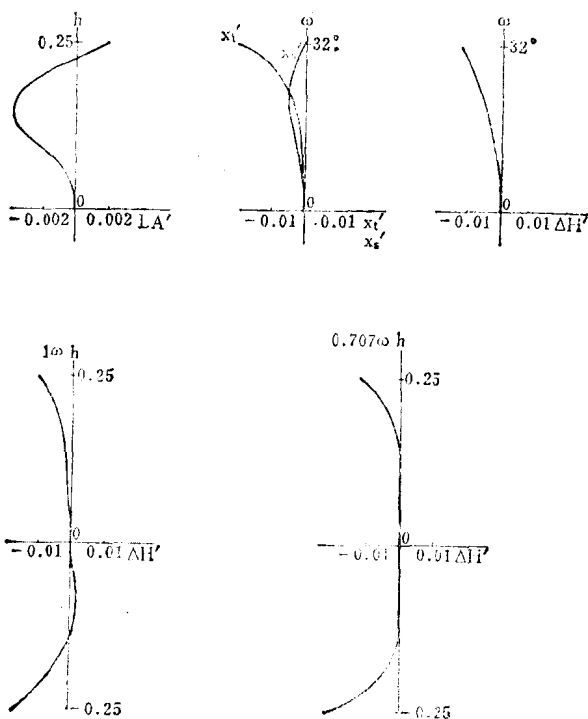
B. F. L = 1.138

FN₀ = 2F. A. = $\pm 32^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.7781	0.1941	1.7234	37.9	9	-1.9958	0.1347*		
2	1.9389	0.0040			10	-0.8004	0.1247	1.7174	29.5
3	1.0004	0.0639	1.5163	64.0	11	4.5543	0.0400		
4	0.3198	0.3317			12	-1.7400	0.1110	1.7292	54.6
5	81.3104	0.0833	1.8052	25.4	13	-0.5547	0.0029		
6	0.3185	0.0157			14	2.6732	0.0833	1.6968	55.6
7	0.7053	0.1441	1.8061	40.8	15	-1.6010			
8	-1.3701	0.0285	1.6990	30.1					

$$0.1347^* = 0.0700 + 0.0647$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0025	0.0014	0.00034	-0.0028	-0.0071	0.62	-1.97%
h 或 ω %	LA'	$\Delta H'$	x_t	x_s'	$x_t' - x_s'$	K_{T1}	$K_{T0.7}^f$
100	0.0023	-0.012	-0.021	0.00089	-0.022	-0.013	-0.0019
70	-0.0035	-0.0055	-0.0040	-0.0054	0.0014	-0.016	-0.0014



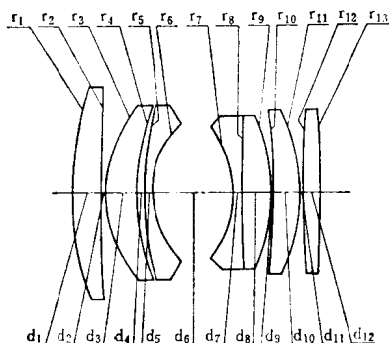
编号: 02-00-111

扩展的高斯型摄影物镜

E. F. L = 1

B. F. L = 0.69672

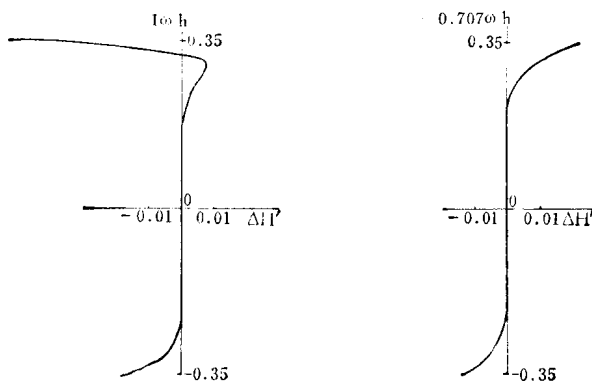
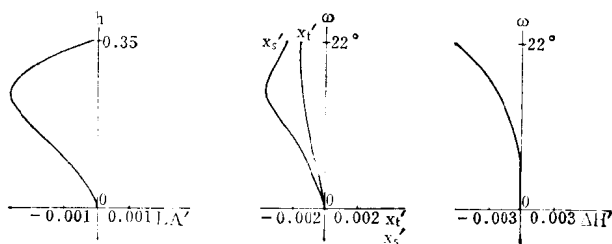
FNo. = 1.4

F. A. = $\pm 22^\circ$ **

序号	r	d	n_D	v	序号	r	d	n_D	v
1	1.03793	0.098094	1.71700	47.99	8	24.49210	0.101507	1.78831	47.37
2	10.42420	0.010372			9	-0.58788	0.003249		
3	0.43740	0.107949	1.78831	47.37	10	-2.77625	0.090000	1.78831	47.37
4	0.74461	0.026849			11	-0.61318	0.008258		
5	1.07497	0.024892	1.68893	31.17	12	3.50851	0.054188	1.74400	44.77
6	0.31467	0.272222*			13	-4.03355			
7	-0.35410	0.026556	1.72830	28.68					

$$0.272222^* = 0.140000 + 0.132222$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0029	-0.000074	0.00077	-0.0035	-0.0039	0.39	-1.61%
h 或 ω %	$L.A'$	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{T1}^f	$K_{T0.7}^f$
100	-0.00018	-0.0064	-0.0016	-0.0024	0.00085		0.0012
70	-0.0027	-0.0022	-0.0015	-0.0037	0.0022	0.0035	0.00053



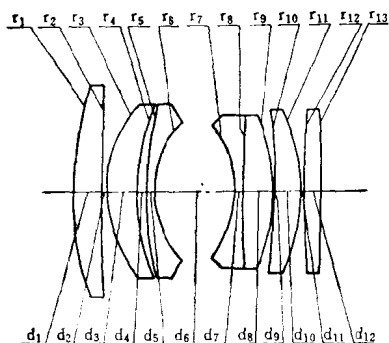
编号: 02-00-112

扩展的高斯型摄影物镜

E. F. L = 1

B. F. L = 0.70993

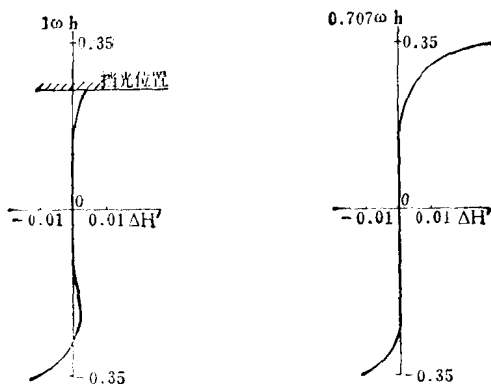
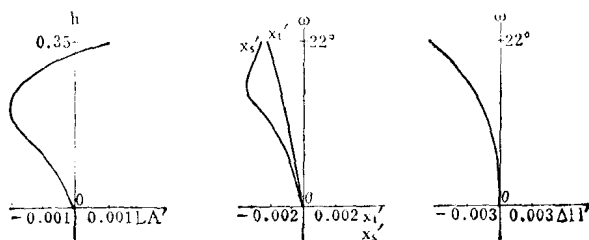
FNo. = 1.4

F. A. = $\pm 22^\circ$ **

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.88904	0.101821	1.71700	47.99	8	7.48043	0.102998	1.78831	47.37
2	5.77321	0.001177			9	-0.60714	0.005689		
3	0.43607	0.097113	1.78831	47.37	10	-1.74852	0.087696	1.78831	47.37
4	0.68124	0.031782			11	-0.56500	0.002550		
5	0.94172	0.023739	1.68893	31.17	12	3.29359	0.056698	1.74400	44.77
6	0.30648	0.285453*			13	-2.61616			
7	-0.34637	0.022954	1.72830	28.68					

$$0.285453^* = 0.145453 + 0.140000$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0025	-0.00014	0.00076	-0.0033	-0.0040	0.39	-1.64%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K'_{t1}	$K'_{t0.7}$
100	0.0010	-0.0065	-0.0021	-0.0025	0.00035		0.0016
70	-0.0019	-0.0023	-0.0014	-0.0035	0.0021	0.0080	0.00095



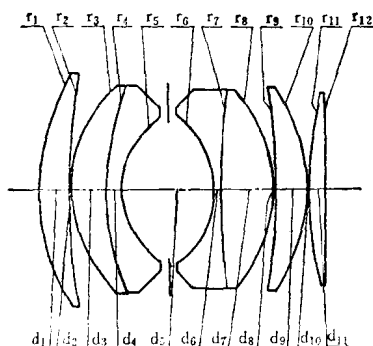
编号: 02-00-113

五组七片大孔径摄影镜头

E. F. L = 1

B. F. L = 0.6817

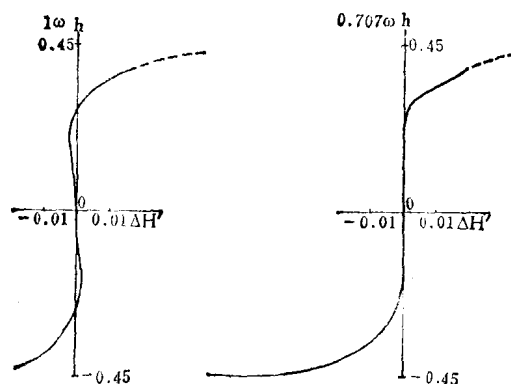
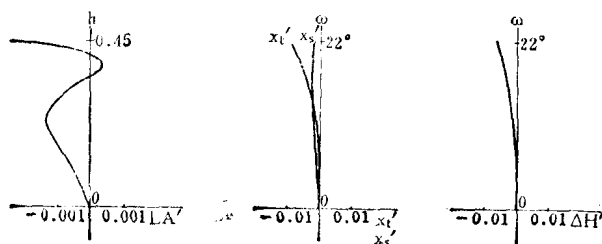
FNo. = 1.1

F. A. = $\pm 22^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.82451	0.11203	1.80440	39.6	7	3.26154	0.19154	1.76200	40.2
2	2.61302	0.00181			8	-0.55605	0.00181		
3	0.51829	0.13191	1.75700	47.8	9	-2.71114	0.12107	1.71300	53.9
4	0.99758	0.05782	1.71736	29.5	10	-0.66134	0.00181		
5	0.31233	0.33971*			11	1.45848	0.06324	1.77390	50.6
6	-0.34345	0.02710	1.78472	25.6	12	-19.87641			

0.33971* = 0.17000 + 0.16971

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0040	-0.00066	0.00070	-0.0039	-0.0054	0.39	-1.38%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$\Delta t' - x'_s$	K'_{T1}	$K'_{T0.7}$
100	-0.0024	-0.0055	-0.0085	-0.0020	-0.0065	0.037	-0.00033
70	-0.00087	-0.0022	-0.0030	-0.0027	-0.00027	0.028	0.000024



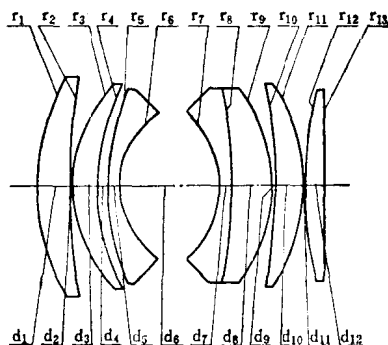
编号: 02-00-114

六组元大孔径摄影镜头

E. F. L = 1

B. F. L = 0.6899

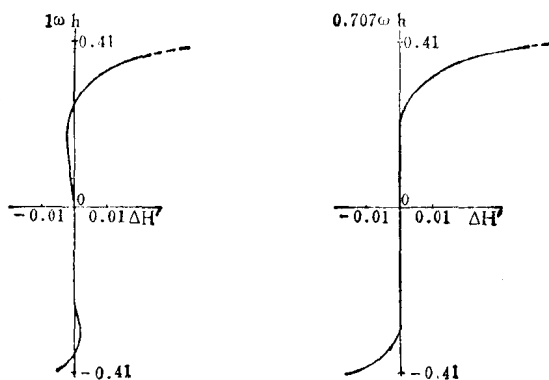
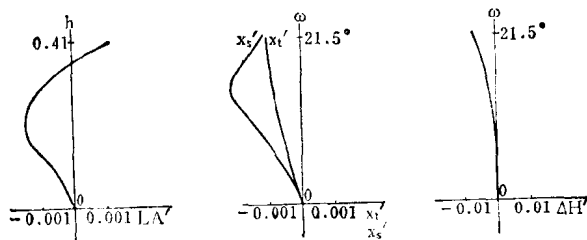
FNo. = 1.2

F. A. = $\pm 21.5^\circ$ 

序号	r	d	n_D	v	序号	r	d	n_D	v
1	0.7165	0.1103	1.8030	46.6	8	-1.7781	0.1388	1.7550	52.4
2	2.5138	0.0021			9	-0.5193	0.0018		
3	0.4702	0.0890	1.8061	40.8	10	-1.8394	0.1014	1.7130	53.9
4	0.7194	0.0347			11	-0.5741	0.0021		
5	0.8663	0.0320	1.7618	27.1	12	1.4655	0.0623	1.7130	53.9
6	0.2957	0.3413*			13	-16.6768			
7	-0.3267	0.0320	1.7283	28.5					

$$0.3413^* = 0.1700 + 0.1713$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0033	-0.00041	0.00084	-0.0033	-0.0050	0.38	-1.68%
h 或 $\omega\%$	LA'	$\Delta H'$	Δi	Δs	$\Delta i - \Delta s$	K'_{T1}	$K'_{T0.7}$
100	0.0011	-0.0065	-0.0011	-0.6912	0.690075	0.027	0.0017
79	-0.0011	-0.0023	-0.00088	-0.0023	0.0015	0.033	0.0018



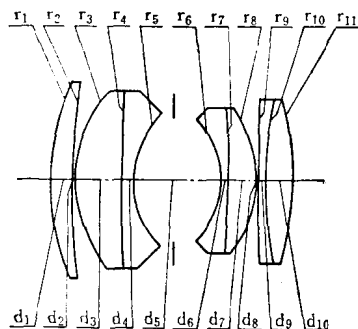
编号: 02-00-115

校正了象差的照相机镜头

E. F. L = 1

B. F. L = 0.69525

FNo. = 1.8

F. A. = $\pm 23^\circ$ 

序号	r	d	n _D	v	序号	r	d	n _D	v
1	0.72988	0.0678	1.80610	40.8	7	-2.58920	0.0858	1.80610	40.8
2	2.63890	0.0058			8	-0.35318	0.0019		
3	0.40665	0.1441	1.58144	40.7	9	4.26850	0.0233	1.80518	25.4
4	5.98970	0.0291	1.75520	27.5	10	1.30570	0.0775	1.69680	55.6
5	0.28127	0.2685*			11	-0.90395			
6	-0.25991	0.0213	1.59270	35.4					

$$0.2685^* = 0.1300 + 0.1385$$

	ΣS_1	ΣS_2	ΣS_3	ΣS_4	ΣS_5	HI	QP (1 ω)
	-0.0018	0.00029	0.00028	-0.0022	-0.0023	0.42	-1.34%
h 或 $\omega\%$	LA'	$\Delta H'$	x'_t	x'_s	$x'_t - x'_s$	K_{t1}	$K_{r0.7}$
100	-0.000061	-0.00056	-0.0027	-0.00086	-0.0018	-0.0050	-0.00023
70	-0.0016	-0.0017	-0.0025	-0.0032	0.00065	-0.0032	0.00014

