

13. 2M レンズデータ

13. 2M tt5.65mm ASAHI B T. kusakawa TOLES  
15:40:40 2011/ 3/ 8

koba-Y	R(I)	D(I) h	Nd u'	Vd hg	ug'	max. -Y
[ 1] 0.58	2.4467	0.9732	1.53460	56.3 F52R	0.000000	0.885\$ ( 20)
[ 2] 0.22	-2.9692	0.0450	0.7119S	1.000	0.142379	0.930* ( 21)
[ 3] 0.92	-125.0789	0.6194	1.63200	23.4		0.962 ( 22)
[ 4] 0.15	2.6447	0.5644	1.1315	0.845	0.226301	1.033 ( 23)
[ 5] 0.62	-3.8807	1.3683	1.53460	56.3 F52R		1.108 ( 24)
[ 6] 0.84	-1.0420	0.2155	0.3896	0.591	0.077912	1.585 ( 25)
[ 7] 0.72	11.0130	0.3800	1.53190	56.0		1.884 ( 26)
[ 8] 0.52	0.9992	0.3704	1.2653	0.405	0.253058	2.380 ( 27)
[ 9] 0.30	0.0000	0.3000	1.51680	64.2 BSC7		2.569 ( 28)
[10]	0.0000	1.1312	0.7358	0.226	0.147161	2.638
		0.9105	1.1161	0.182	0.223213	

\* fixed iris height ( # <-- user given height ) : (IRIS= 1)  
[ 1] 0.8850# [ 2] 0.9300# [ 8] 2.8000# [

\* surface touch data  
( 4- 5) cross point H = 1.1470 dif. H = 0.0387

\* mark after weight

<-- precise value given from glass data

vol. (cc)	weight	H/R	f	sin**2	Z-val	radius	HHPS
[ 1] ( 29) 0.0026	0.2309c ( 39)	0.52 ( 49)	0.3375	1-A*(h/R)**2	0.9467	0.8850	0.1000
[ 2] ( 30)	0.6649c ( 40)	0.83	0.9300	[ 1] 0.5579		0.9300	0.1000
[ 3] ( 31) 0.0030	0.0077c ( 41)	0.67 ( 50)	0.1991	[ 2] 0.9999		0.9626	0.1000
[ 4] ( 32)	0.3915c ( 42)	0.83	1.0336	( -4.0903) [ 4] 0.8468		1.0336	0.1000
[ 5] ( 33) 0.0091	0.8935c ( 43)	0.44 ( 51)	0.6179	[ 5] 0.2017		1.1093	0.1000

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[ 6]	( 34)	0.0000c	( 44)	0.48	[ 6]	8.7838	1.5863	0.1000
			( 2.2814)					
[ 7]	( 35)	0.0000c	( 45)	0.12	( 52)	1.1056	1.8846	0.1000
		0.0170	0.0465	[ 7]	1.3968			
[ 8]	( 36)	0.0000c	( 46)	0.58	[ 8]	26.4971	2.8000	0.1000
			( -2.0936)					
[ 9]	( 37)	0.0000	( 47)	0.37	( 53)	0.0000	2.5695	0.1000
		0.0071	0.0190	[ 9]	1.0000			
[10]	( 38)	0.0000	( 48)	0.37	[10]	1.0000	2.6389	0.1000

( 0.0387) ( 0.1097) ( 4.4800)

\* total volume ( 54) 0.0387

		Nd	Vd	d	g	c	f
e		boundaries					
1	( 1) F52R	(ZEONEX) 1.5346	56.27	1.53460	1.54670	1.53180	1.54130
1.53690		( 55) 0.04	( 56) 0.19	( 57) 0.53			
2	( 3)	1.6320	23.40	1.63201	1.66716	1.62453	1.65075
1.63818		( 58) -0.20	( 59) 0.67	( 60) 0.34			
3	( 5) F52R	(ZEONEX) 1.5346	56.27	1.53460	1.54670	1.53180	1.54130
1.53690		( 61) 0.04	( 62) 0.19	( 63) 0.53			
4	( 7)	1.5319	55.99	1.53192	1.54379	1.52903	1.53855
1.53418		( 64) 0.04	( 65) 0.20	( 66) 0.54			
5	( 9) BSC7	(hoya ) 1.5168	64.20	1.51680	1.52667	1.51432	1.52237
1.51872		( 67) 0.04	( 68) 0.05	( 69) 0.57			

0.38000 colour weight ( ) = 0.29000 0.06000 0.10000 0.17000

\* conic surface data K=kappa (X=h\*\*2/R/(1+sqrt(1-(1.0+K)\*(h/R)\*\*2))  
 spherical (K=0), parabola (K=-1), ellipse (K>-1), hyperbolic (K<-1), eps. =  
 X-difference between K=0 at marginal height

	A/(R**2)	eps.
1-(1+K)*(h/R)**2 critical_h		
kappa( 1) = -0.59247750D+00	0.68072921D-01	-0.0068 0.9467
3.8328		
kappa( 2) = 0.35071322D+01	0.51123837D+00	-0.0338 0.5579
1.3986		
kappa( 3) = 0.00000000D+00	0.63919283D-04	0.0000 0.9999
125.0789		
kappa( 4) = 0.53537000D-02	0.14373366D+00	0.0001 0.8468
2.6377		
kappa( 5) = 0.87866374D+01	0.64986100D+00	-0.0984 0.2017
1.2405		
kappa( 6) = -0.43628505D+01	-0.30973840D+01	-7.9117 8.7838
kappa( 7) = -0.14565700D+02	-0.11184870D+00	-0.0291 1.3968
kappa( 8) = -0.54925261D+01	-0.44995760D+01	1.7492 26.4971

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\* aspherical coefficients

( 1) even only	( 2:) 0.00000000D+00	( 4:) -0.23151107D-01	( 6:)
6:)-0.13149498D-01	( 8:)-0.10474737D-01	(10:)-0.82855624D-02	
	0.0000	-0.0142	
-0.0063	-0.0039	-0.0024	
( 2) even only	( 2:) 0.00000000D+00	( 4:) -0.25074375D-01	( 6:)
0.20369195D-01	( 8:)-0.26144974D-01	(10:) 0.79678424D-02	
	0.0000	-0.0188	
0.0132	-0.0146	0.0039	
( 3) even only	( 2:) 0.00000000D+00	( 4:) -0.32507259D-01	( 6:)
0.44612098D-01	( 8:)-0.29790850D-01	(10:) 0.14495517D-01	
	0.0000	-0.0278	
0.0353	-0.0218	0.0098	
( 4) even only	( 2:) 0.00000000D+00	( 4:) -0.14040278D-02	( 6:)
0.71189311D-02	( 8:) 0.28961899D-01	(10:)-0.35764807D-01	
	0.0000	-0.0016	
0.0086	0.0374	-0.0493	
	(12:) 0.21235993D-01	(14:)-0.39734849D-02	(
	0.0312	-0.0062	
( 5) even only	( 2:) 0.00000000D+00	( 4:) -0.20576081D-02	(
6:)-0.28483939D-01	( 8:) 0.28189725D-01	(10:)-0.77225738D-02	
	0.0000	-0.0031	
-0.0528	0.0642	-0.0216	
( 6) even only	( 2:) 0.00000000D+00	( 4:) -0.93750796D-01	( 6:)
0.35319888D-01	( 8:)-0.13176846D-01	(10:) 0.39954660D-02	
	0.0000	-0.5921	
0.5605	-0.5255	0.4005	
	(12:)-0.65665113D-03	(	
	-0.1654		
( 7) even only	( 2:) 0.00000000D+00	( 4:) -0.14374925D+00	( 6:)
0.45876432D-01	( 8:)-0.28935311D-02	(10:)-0.23959998D-02	
	0.0000	-1.8096	
2.0491	-0.4585	-1.3472	
	(12:) 0.57136862D-03	(14:)-0.37307031D-04	(
	1.1399	-0.2641	
( 8) even only	( 2:) 0.00000000D+00	( 4:) -0.95094952D-01	( 6:)
0.44363776D-01	( 8:)-0.16445085D-01	(10:) 0.42454284D-02	
	0.0000	-3.0535	
8.0721	-16.9555	24.8036	
	(12:)-0.73881103D-03	(14:) 0.74264983D-04	
(16:)-0.32066349D-05	(		
	-24.4594	13.9320	
-3.4088			

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\* following 26 parameters are converted to aberration group (in D.L.S.) with K1=32

	posi. -->	( 1)	(
( 1)	AL : EFL or beta (AL)	4.4800	
( 2)	FB : back focus (FB)	0.8158	
( 3)	EFL : focal length	4.4800	
( 4)	FNO : F-number	2.5329	
( 5)	PP1 : PP1	-1.0357	
( 6)	PP2 : PP2	-3.6642	
( 7)	LWID : lens width	4.8362	
( 8)	LTRK : lens track	5.6520	
( 9)	TTKD : total track+def.	5.6522	
(10)	ENTP : entrance pupil	0.0000	
(11)	EXTP : exit pupil	-2.8230	
(12)	FILT : filter size	0.9730	
(13)	LVAL : light value	0.9330	
(14)	PPAB : pupil aberration	-0.0419	
(15)	LWRH : lower ray maximum	-0.8843	
(16)	FRGH : flange height	29.2297	
(17)	Qy' 1 : SIN(Ep) : image side	0.4450	
(18)	Qy' 2 : SIN(Ep)	0.4577	
(19)	Qy' 3 : SIN(Ep)	0.4725	
(20)	Qy' 4 : SIN(Ep)	0.4641	
(21)	Qy' 5 : SIN(Ep)	0.4321	
(22)	Qy' 6 : SIN(Ep)	0.3816	
(23)	Qy' 7 : SIN(Ep)	0.3161	
(24)	Qy' 8 : SIN(Ep)	0.2414	
(25)	Qy' 9 : SIN(Ep)	0.1626	
(26)	Qy' * : SIN(Ep)	0.0819	

\* zoom character ( 1) (

zoom equation=	4
objective distance =	-0.1000D+23
decentering character =	0
position name =	zps1
defocus =	0.0002

$\kappa$	$\kappa'$	1000/F	F	PP1	PP2	SUM-D
zps1	( 1-10)	$\tau$	F1	F2		
-0.2312 :	-0.8179 :	223.21323	4.4800	-1.0357	-3.6642 :	4.8362 :
		1.0795 :	-5.5157 :	0.8158		

IRIS= 1 HHPS= 0.1000 KFISH= 0 NAINP= 0 KHADJY= 0 K\_BTRACE\_CRD= 0  
 IRIS\_RADIUS\_XQT= 0

QIPT= \*\* Aspherical surface tracing condition : KJNCHG= 4 NQIPT=99  
 0.0146 K\_AUTO\_QIPT= 0

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K\_AUTO\_NK4= 0      N\_KJNCHG\_4=30

# zps1 ..... zoom position No. = 1, F= 4.4800,  
objective distance= -0.1000D+23 .....

OBJD= -0.10000000D+23 SAU= 0.8844 SAL= 0.0000 QNTP= 0.0000  
def.= 0.0002 (Fb+def.)= 0.8160  
NZMEQ= 4 FNO(using ray)= 2.533 ; N.A. (object side)= 0.0000  
N.A. (image side)= 0.19740

\* totill : total  
illumination=(S/S0)\*(dA/dA')\*cosine( $\omega$ )\*\*4  
\* chief-Y : Y-value on pupil plane of a ray which  
passes center of real pupil  
\* Y' : value on defocused plane

\*\* ray interruption mode : r= IRIS radius, n=H\_NIGUN(IRIS radius when  
NIGUN=1), c=HCUT(user specified height)  
m=H\_KASM(highest object ray height stopper), s=HSA1Y(highest  
axial marginal ray height), h=HLSY(lens margin)

IHI	name	LSL	LSU	RSO	VT	totill	S0	deg.	Y'
deg.		HHL		HHU	SAG. M.	chief-Y			
F1	Y100	1c	2c	1.00	0.93	0.4215	-0.6506	( 33.0)	
2.9345	( 26.4)	-0.9730		0.6801	0.8828	0.0000			
F2	Y90	1c	2c	0.90	0.94	0.5336	-0.5856	( 30.4)	
2.6371	( 27.2)	-0.9637		0.7035	0.8828	0.0000			
F3	Y80	1c	2c	0.80	0.95	0.6012	-0.5205	( 27.5)	
2.3586	( 28.2)	-0.9547		0.7273	0.8836	0.0000			
F4	Y70	1c	2c	0.70	0.96	0.6485	-0.4554	( 24.5)	
2.0720	( 27.7)	-0.9465		0.7527	0.8836	0.0000			
F5	Y60	1c	2c	0.60	0.97	0.7078	-0.3904	( 21.3)	
1.7773	( 25.6)	-0.9371		0.7801	0.8844	0.0000			
F6	Y50	1c	2c	0.50	0.98	0.7736	-0.3253	( 18.0)	
1.4786	( 22.4)	-0.9289		0.8078	0.8844	0.0000			
F7	Y40	1c	2c	0.40	0.99	0.8438	-0.2603	( 14.6)	
1.1788	( 18.4)	-0.9195		0.8367	0.8844	0.0000			
F8	Y30	1c	1c	0.30	1.00	0.9062	-0.1952	( 11.0)	
0.8803	( 14.0)	-0.9113		0.8582	0.8844	0.0000			
F9	Y20	1c	1c	0.20	1.00	0.9568	-0.1301	( 7.4)	
0.5845	( 9.4)	-0.9020		0.8668	0.8844	0.0000			
F10	Y10	1c	1c	0.10	1.00	0.9907	-0.0651	( 3.7)	
0.2916	( 4.7)	-0.8938		0.8758	0.8844	0.0000			
F0	Y0	1c	1c	0.00	1.00	1.0000	0.0000	( 0.0)	
0.0000	( 0.0)	-0.8844		0.8844	0.8844	0.0000			

..... zoom position No. = 1, F= 4.4800, objective  
distance= -0.1000D+23 .....

EFL= 4.4800 OBJD= -0.10000000D+23 FB= 0.8158 FNO= 2.533 vig=  
0.9330 def.= 0.0002 MTFBST= 0

Seidel coma (d)= -0.1135 (g)= -0.1748 (c)= -0.1025 (f)= -0.1444  
(e)= -0.1233  
A-cof= 35.9666 B-cof= 32.2970

13. 2M レンズデータ

T1R4	T2R3	L*E3	T*E3	I	II	III	PS	V	R5
( 1-10)		0.21	1.79	-1.14	-0.11	0.00	0.17	-0.14	72.33
-380.32	-1470.89	-28.58	-38.56	-11.84	-20.13				

----- Zoom position no. = 1 EFL= 4.4800 paraxial Fb=  
0.8158 -----

	d	s. c.	g	c	f	e
( 1.00)	-0.0010	0.0001	-0.0123	0.0044	-0.0106	-0.0057
( 0.90)	0.0026	0.0056	-0.0012	0.0063	-0.0029	-0.0006
( 0.80)	0.0001	0.0023	-0.0004	0.0030	-0.0035	-0.0025
( 0.70)	0.0013	0.0036	0.0023	0.0038	-0.0014	-0.0009
( 0.60)	0.0049	0.0077	0.0063	0.0072	0.0024	0.0027
( 0.50)	0.0077	0.0109	0.0089	0.0100	0.0052	0.0055
( 0.40)	0.0081	0.0111	0.0087	0.0105	0.0053	0.0059
( 0.30)	0.0063	0.0085	0.0062	0.0089	0.0032	0.0040
( 0.20)	0.0034	0.0046	0.0027	0.0061	0.0000	0.0010
( 0.10)	0.0010	0.0013	-0.0003	0.0037	-0.0027	-0.0015
( 0.00)	0.0000	0.0000	-0.0014	0.0028	-0.0038	-0.0025

f-sag.	f-mer.	RSO	dist.	d-sag.	d-mer.	g-sag.	g-mer.	c-sag.	c-mer.
F1 Y100	( 1.00)	0.6675	-0.0340	-0.0219	-0.0103	-0.0070	-0.0358	-0.0192	
-0.0251	-0.0207	-0.0326	-0.0242						
F2 Y90	( 0.90)	0.5156	-0.0227	-0.0001	-0.0032	0.0162	-0.0238	0.0004	
-0.0158	0.0041	-0.0218	-0.0005						
F3 Y80	( 0.80)	1.1362	-0.0210	-0.0104	-0.0058	0.0041	-0.0213	-0.0102	
-0.0163	-0.0064	-0.0208	-0.0105						
F4 Y70	( 0.70)	1.5413	-0.0192	-0.0107	-0.0077	0.0019	-0.0188	-0.0102	
-0.0163	-0.0075	-0.0195	-0.0110						
F5 Y60	( 0.60)	1.6146	-0.0152	-0.0095	-0.0067	0.0002	-0.0143	-0.0085	
-0.0139	-0.0078	-0.0161	-0.0103						
F6 Y50	( 0.50)	1.4457	-0.0114	-0.0060	-0.0051	0.0011	-0.0100	-0.0046	
-0.0112	-0.0056	-0.0126	-0.0072						
F7 Y40	( 0.40)	1.0981	-0.0082	-0.0046	-0.0037	0.0013	-0.0065	-0.0029	
-0.0089	-0.0047	-0.0097	-0.0059						
F8 Y30	( 0.30)	0.6571	-0.0054	-0.0020	-0.0026	0.0032	-0.0035	-0.0003	
-0.0070	-0.0024	-0.0072	-0.0034						
F9 Y20	( 0.20)	0.2602	-0.0034	-0.0004	-0.0022	0.0034	-0.0011	0.0015	
-0.0058	-0.0015	-0.0054	-0.0020						
F10 Y10	( 0.10)	0.0441	-0.0014	-0.0008	-0.0019	-0.0002	0.0013	0.0015	
-0.0047	-0.0035	-0.0037	-0.0030						
F0 Y0	( 0.00)	0.0000	0.0000	0.0000	-0.0014	-0.0014	0.0028	0.0028	
-0.0038	-0.0038	-0.0025	-0.0025						

TV-distortion with aspect ratio(1: 1.3333)= -0.4704

KDIST\_Y= 0 : both real image height Y' and ideal image height y' are on defocused plane

[ K3 --> 1~9:mer.-y, 10~13:sag.-z, 14:dS, 15:dM, 16:dist., 17~25:45-y, 26~29:sag.-y, 30~38:45-z ]

def. = 0.0002

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( F0 Y0 : 0.00)

d	0.0003	0.0000	-0.0007	-0.0002		0.0002	0.0007	0.0000	-0.0003
sg-z	0.0003	0.0000	-0.0007	-0.0002					
g	0.0025	-0.0001	-0.0009	-0.0002	0.0000	0.0002	0.0009	0.0001	-0.0025
	0.0025	-0.0001	-0.0009	-0.0002					
c	-0.0008	-0.0004	-0.0010	-0.0004	0.0000	0.0004	0.0010	0.0004	0.0008
	-0.0008	-0.0004	-0.0010	-0.0004					
f	0.0022	0.0005	-0.0005	-0.0001	0.0000	0.0001	0.0005	-0.0005	-0.0022
	0.0022	0.0005	-0.0005	-0.0001					
e	0.0012	0.0004	-0.0005	-0.0001	0.0000	0.0001	0.0005	-0.0004	-0.0012
	0.0012	0.0004	-0.0005	-0.0001					

( F1 Y100 : 1.00)

d	0.0167	-0.0016	-0.0009	0.0003		-0.0007	-0.0007	0.0008	0.0000
sg-z	0.0034	0.0004	0.0010	0.0012					
45-y	0.0092	-0.0005	-0.0005	0.0002	0.0000	-0.0005	-0.0003	0.0009	0.0027
sg-y	0.0021	-0.0001	-0.0004	-0.0002					
45-z	0.0061	0.0012	0.0008	0.0008	0.0000	-0.0010	-0.0011	-0.0003	0.0014
g	0.0289	-0.0021	-0.0019	0.0002	0.0008	0.0002	-0.0007	-0.0025	-0.0125
	0.0038	-0.0025	-0.0012	0.0001					
c	0.0137	-0.0017	-0.0007	0.0005	0.0003	-0.0003	0.0002	0.0027	0.0044
	0.0025	0.0005	0.0012	0.0013					
f	0.0238	-0.0016	-0.0014	0.0000	0.0000	-0.0010	-0.0017	-0.0023	-0.0086
	0.0045	-0.0006	0.0002	0.0007					
e	0.0193	-0.0015	-0.0011	0.0001	-0.0002	-0.0011	-0.0014	-0.0008	-0.0036
	0.0041	0.0003	0.0009	0.0011					

( F2 Y90 : 0.90)

d	0.0043	-0.0019	-0.0014	-0.0004		-0.0001	0.0004	0.0011	0.0001
sg-z	0.0018	-0.0002	0.0004	0.0007					
45-y	0.0016	-0.0014	-0.0010	-0.0003	0.0000	0.0000	0.0005	0.0012	0.0025
sg-y	0.0007	-0.0002	-0.0003	-0.0001					
45-z	0.0023	0.0004	0.0004	0.0005	0.0000	-0.0006	-0.0005	-0.0001	0.0014
g	0.0106	-0.0026	-0.0023	-0.0004	0.0008	0.0013	0.0016	0.0007	-0.0067
	0.0023	-0.0028	-0.0016	-0.0002					
c	0.0025	-0.0020	-0.0013	-0.0002	0.0001	0.0001	0.0009	0.0022	0.0029
	0.0010	-0.0001	0.0005	0.0008					
f	0.0082	-0.0020	-0.0019	-0.0005	0.0001	0.0001	0.0003	-0.0002	-0.0051
	0.0029	-0.0010	-0.0004	0.0004					
e	0.0058	-0.0018	-0.0016	-0.0005	-0.0001	-0.0002	0.0000	0.0002	-0.0022
	0.0025	-0.0002	0.0003	0.0007					

( F3 Y80 : 0.80)

d	0.0005	0.0002	0.0001	0.0003		-0.0006	-0.0007	-0.0008	-0.0010
sg-z	0.0019	0.0003	0.0005	0.0007					
45-y	-0.0001	-0.0001	0.0000	0.0002	0.0000	-0.0004	-0.0003	-0.0002	0.0009
sg-y	0.0005	0.0000	-0.0001	0.0000					
45-z	0.0006	0.0004	0.0005	0.0005	0.0000	-0.0006	-0.0004	-0.0001	0.0013
g	0.0059	0.0001	-0.0001	0.0008	0.0013	0.0013	0.0015	0.0005	-0.0044
	0.0026	-0.0018	-0.0012	-0.0001					
c	-0.0011	0.0000	0.0001	0.0002	-0.0001	-0.0006	-0.0006	-0.0003	0.0009
	0.0011	0.0002	0.0005	0.0007					
f	0.0039	0.0005	0.0001	0.0005	0.0004	0.0000	-0.0002	-0.0010	-0.0041
	0.0031	-0.0003	-0.0001	0.0004					
e	0.0019	0.0004	0.0002	0.0003	0.0000	-0.0006	-0.0008	-0.0013	-0.0025

13. 2M レンズデータ

0.0027 0.0003 0.0004 0.0007

( F4 Y70 : 0.70)

d	-0.0036	0.0003	0.0005	0.0004		-0.0005	-0.0006	-0.0008	0.0003
sg-z	0.0020	0.0006	0.0005	0.0006					
45-y	-0.0020	-0.0001	0.0002	0.0003	0.0000	-0.0003	-0.0003	-0.0004	0.0007
sg-y	0.0001	0.0000	0.0000	0.0000					
45-z	-0.0006	0.0003	0.0004	0.0005	0.0000	-0.0005	-0.0004	-0.0004	0.0005
g	0.0012	0.0005	0.0006	0.0011	0.0013	0.0014	0.0018	0.0013	-0.0015
	0.0030	-0.0010	-0.0008	0.0000					
c	-0.0052	-0.0001	0.0003	0.0002	-0.0001	-0.0006	-0.0006	-0.0005	0.0018
	0.0011	0.0005	0.0005	0.0006					
f	-0.0004	0.0008	0.0007	0.0007	0.0005	0.0001	0.0001	-0.0006	-0.0018
	0.0033	0.0003	0.0001	0.0005					
e	-0.0023	0.0006	0.0006	0.0005	0.0001	-0.0005	-0.0006	-0.0011	-0.0009
	0.0028	0.0007	0.0005	0.0007					

( F5 Y60 : 0.60)

d	-0.0040	0.0005	0.0006	0.0004		-0.0004	-0.0004	-0.0011	-0.0003
sg-z	0.0018	0.0006	0.0003	0.0005					
45-y	-0.0021	0.0001	0.0002	0.0003	0.0000	-0.0002	-0.0002	-0.0006	-0.0004
sg-y	0.0000	0.0000	0.0000	0.0000					
45-z	-0.0010	0.0001	0.0002	0.0004	0.0000	-0.0003	-0.0002	-0.0004	-0.0002
g	0.0001	0.0007	0.0007	0.0010	0.0010	0.0012	0.0016	0.0009	-0.0015
	0.0030	-0.0007	-0.0008	0.0000					
c	-0.0055	0.0000	0.0003	0.0003	-0.0001	-0.0004	-0.0004	-0.0008	0.0009
	0.0008	0.0005	0.0002	0.0004					
f	-0.0012	0.0010	0.0008	0.0007	0.0004	0.0001	0.0001	-0.0008	-0.0020
	0.0032	0.0005	0.0000	0.0004					
e	-0.0028	0.0008	0.0007	0.0005	0.0000	-0.0004	-0.0005	-0.0013	-0.0013
	0.0026	0.0008	0.0003	0.0005					

( F6 Y50 : 0.50)

d	-0.0018	0.0011	0.0006	0.0004		0.0000	0.0003	-0.0002	-0.0001
sg-z	0.0015	0.0006	0.0000	0.0003					
45-y	-0.0008	0.0005	0.0002	0.0002	0.0000	0.0000	0.0003	0.0000	-0.0007
sg-y	0.0001	0.0002	0.0001	0.0000					
45-z	-0.0007	0.0002	0.0001	0.0003	0.0000	-0.0002	0.0000	-0.0003	-0.0009
g	0.0011	0.0010	0.0005	0.0006	0.0006	0.0010	0.0018	0.0013	-0.0015
	0.0030	-0.0004	-0.0008	-0.0001					
c	-0.0031	0.0007	0.0004	0.0002	-0.0001	0.0000	0.0004	0.0001	0.0011
	0.0006	0.0004	-0.0001	0.0002					
f	0.0004	0.0015	0.0008	0.0005	0.0002	0.0002	0.0006	-0.0001	-0.0019
	0.0031	0.0006	-0.0001	0.0003					
e	-0.0008	0.0014	0.0007	0.0004	0.0000	-0.0001	0.0002	-0.0005	-0.0011
	0.0024	0.0008	0.0001	0.0004					

( F7 Y40 : 0.40)

d	-0.0012	0.0010	0.0004	0.0003		0.0002	0.0008	0.0003	-0.0005
sg-z	0.0014	0.0006	-0.0001	0.0002					
45-y	-0.0001	0.0007	0.0001	0.0002	0.0000	0.0001	0.0006	0.0003	-0.0008
sg-y	0.0001	0.0002	0.0001	0.0001					
45-z	-0.0003	0.0003	0.0000	0.0002	0.0000	-0.0001	0.0001	-0.0003	-0.0015
g	0.0004	0.0002	-0.0002	0.0001	0.0001	0.0006	0.0016	0.0012	-0.0026
	0.0031	-0.0002	-0.0008	-0.0001					
c	-0.0021	0.0007	0.0002	0.0002	0.0000	0.0003	0.0010	0.0007	0.0007



13. 2M レンズデータ

	0.0005	0.0003	-0.0003	0.0001					
f	0.0003	0.0010	0.0003	0.0002	0.0000	0.0001	0.0008	0.0001	-0.0026
	0.0031	0.0007	-0.0002	0.0002					
e	-0.0004	0.0011	0.0004	0.0003	-0.0001	0.0000	0.0006	0.0000	-0.0016
	0.0023	0.0008	0.0000	0.0002					
( F8 Y30 : 0.30)									
d	-0.0006	0.0005	-0.0002	0.0000		0.0002	0.0008	0.0001	-0.0020
sg-z	0.0013	0.0005	-0.0003	0.0000					
45-y	0.0001	0.0005	-0.0001	0.0000	0.0000	0.0002	0.0006	0.0001	-0.0014
sg-y	0.0000	0.0002	0.0001	0.0001					
45-z	0.0001	0.0005	-0.0001	0.0001	0.0000	0.0000	0.0002	-0.0003	-0.0017
g	0.0003	-0.0008	-0.0012	-0.0005	-0.0003	0.0002	0.0011	0.0004	-0.0046
	0.0031	0.0000	-0.0008	-0.0002					
c	-0.0014	0.0003	-0.0003	0.0001	0.0001	0.0004	0.0010	0.0005	-0.0007
	0.0003	0.0002	-0.0005	-0.0001					
f	0.0005	0.0002	-0.0005	-0.0002	-0.0003	0.0000	0.0005	-0.0004	-0.0043
	0.0030	0.0007	-0.0002	0.0001					
e	0.0000	0.0005	-0.0003	0.0000	-0.0001	0.0000	0.0005	-0.0003	-0.0031
	0.0021	0.0008	-0.0002	0.0001					
( F9 Y20 : 0.20)									
d	0.0006	0.0008	-0.0003	-0.0001		0.0003	0.0008	-0.0002	-0.0025
sg-z	0.0009	0.0004	-0.0005	-0.0001					
45-y	0.0005	0.0005	-0.0002	-0.0001	0.0000	0.0002	0.0006	0.0000	-0.0015
sg-y	0.0001	0.0002	0.0001	0.0001					
45-z	0.0003	0.0005	-0.0002	0.0000	0.0000	0.0001	0.0004	-0.0003	-0.0015
g	0.0019	-0.0003	-0.0014	-0.0008	-0.0006	0.0000	0.0008	-0.0002	-0.0052
	0.0029	0.0000	-0.0008	-0.0002					
c	-0.0002	0.0006	-0.0004	0.0000	0.0001	0.0005	0.0011	0.0003	-0.0013
	-0.0001	0.0000	-0.0007	-0.0002					
f	0.0020	0.0006	-0.0006	-0.0004	-0.0004	-0.0001	0.0004	-0.0008	-0.0048
	0.0027	0.0007	-0.0003	0.0000					
e	0.0013	0.0009	-0.0003	-0.0001	-0.0001	0.0001	0.0005	-0.0006	-0.0036
	0.0018	0.0007	-0.0003	0.0000					
( F10 Y10 : 0.10)									
d	0.0004	0.0006	-0.0004	-0.0001		0.0003	0.0008	0.0000	-0.0016
sg-z	0.0005	0.0001	-0.0006	-0.0002					
45-y	0.0003	0.0004	-0.0003	-0.0001	0.0000	0.0002	0.0006	0.0000	-0.0009
sg-y	0.0001	0.0001	0.0001	0.0000					
45-z	0.0001	0.0002	-0.0004	-0.0001	0.0000	0.0001	0.0005	-0.0001	-0.0008
g	0.0023	0.0001	-0.0010	-0.0006	-0.0004	-0.0001	0.0007	-0.0001	-0.0042
	0.0027	0.0000	-0.0008	-0.0002					
c	-0.0006	0.0003	-0.0005	-0.0001	0.0001	0.0005	0.0011	0.0004	-0.0004
	-0.0006	-0.0002	-0.0009	-0.0003					
f	0.0021	0.0008	-0.0005	-0.0002	-0.0003	-0.0001	0.0004	-0.0006	-0.0038
	0.0024	0.0006	-0.0004	0.0000					
e	0.0012	0.0008	-0.0003	-0.0001	-0.0001	0.0001	0.0005	-0.0005	-0.0026
	0.0014	0.0005	-0.0004	-0.0001					