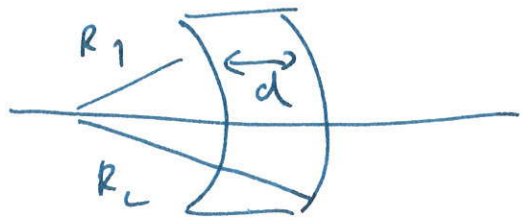
Maksutov



$$\phi_1 = \frac{n-1}{R_1}$$

$$\phi_2 = \frac{1-n}{R_2}$$

$$\begin{pmatrix} A & B \\ C & D \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ -\phi_2 & 1 \end{pmatrix} \underbrace{\begin{pmatrix} 1 & d/n \\ 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 \\ -\phi_1 & 1 \end{pmatrix}}$$

$$\begin{pmatrix} 1 - \frac{d}{n}\phi_1 & 1 \\ -\phi_1 & 1 \end{pmatrix}$$

$$-\phi = C = -\phi_1 - \phi_2 + \frac{d}{n}\phi_1\phi_2$$

$$\boxed{\frac{1}{f} = (n-1)\left(\frac{1}{R_1} - \frac{1}{R_2}\right) + \frac{(n-1)^2}{R_1 R_2}\frac{d}{n}}$$

soustředný: $R_1 - R_2 = d > 0$

$$\frac{1}{f} = \frac{n-1}{n R_1 R_2}\left(-nd + (n-1)d\right)$$

$$\boxed{\frac{1}{f} = -\frac{(n-1)}{n}\frac{d}{R_1 R_2} < 0}$$

achromatizace :

$$\frac{\partial}{\partial n}\left(\frac{1}{f}\right) = 0$$

$$\Rightarrow \quad \frac{1}{R_1} - \frac{1}{R_2} + \frac{2(n-1)d}{R_1 R_2 n} - \frac{(n-1)^2 d}{R_1 R_2 n^2} = 0$$

$$R_1 - R_2 = \frac{2(n-1)d}{n} - \frac{(n-1)^2 d}{n^2}$$

$$R_1 - R_2 = \frac{2n(n-1)d - (n-1)^2 d}{n^2}$$

$$= \frac{2n^2 d - 2\cancel{nd} - n^2 d + 2\cancel{nd} - d}{n^2}$$

$$R_1 - R_2 = \frac{n^2 - 1}{n^2} d$$

$$\boxed{d = (R_1 - R_2)\frac{n^2}{n^2 - 1}}$$

ale sousedny' $d = R_1 - R_2$!!

koncka $\frac{n^2}{n^2-1} \sim 2$

Maksutov f/4 soustředný

	RAD	TH	GLASS	POZN.
1	0	V (300)	–	AS
2	S_1 (-300)	10	N-BK7	–
3	S_1 (-320)	S_2	–	–
4	-1600	S_3	REFL	–

S_1: chief angle = $\frac{\text{úhel} \times \pi}{180}$

S_2: -11- height = $\frac{\text{úhel} \times \pi}{180} \times 1600$

} soustřednost

S_3: axial height = 0

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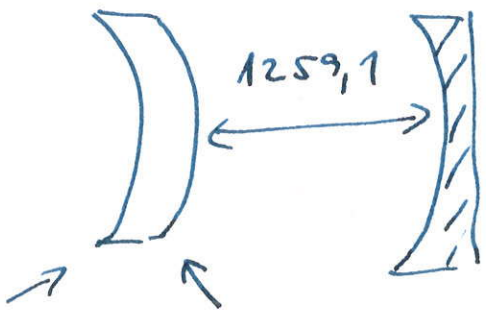
optimalizace SA3



-331,2039 -340,9435

Maksutov f/4 kompaktní / achrom.

přenesení aperturu na korektor

- odstranit solve S_1, S_2
- vymazat povrch č. 1

	RAD	TH	GLASS	POZN.
1	-331,2039	V(10)	N-BK7	AS
2	V(-340,9435)	1259,1	—	—
3	-1600	S_3	REFL	—

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optimalizace SA3 + PAC

= achromatizace menisku (TH(1) = 41,36 ; RD(2) = -354,8)

velká koma CMA3 = - 0,0223

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optimalizace CMA3 ručně posunem menisku

TH(2) 1259,1 → 990

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optim. rádius IMG = -750