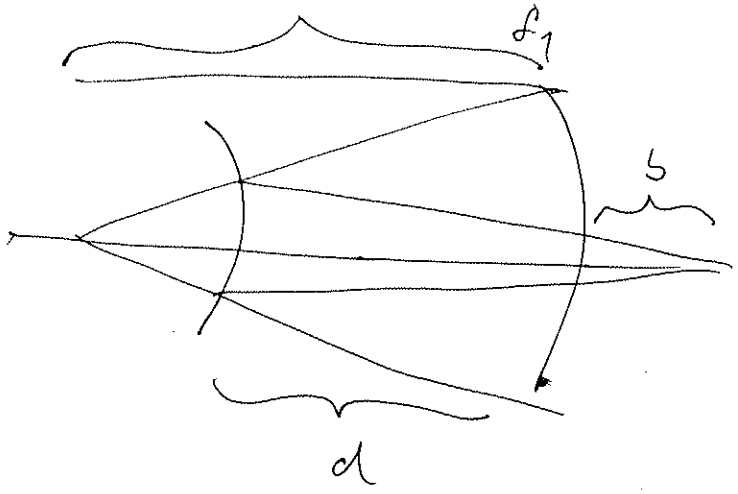
Zaclonění plochého Cassegrainu



$$\frac{D_1}{D_2} = \frac{f}{b+d} = \frac{f_1}{f_1-d} \quad \Rightarrow \quad b+d = m(f_1-d)$$

$$b = m(f_1-d) - d = m\left(f_1 - d - \frac{d}{m}\right)$$

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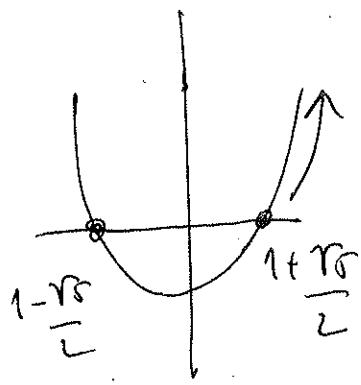
ploché $\Rightarrow |f_1| = |f_2|$; $m = \frac{f_2}{f_1+f_2-d} = \frac{-f_1}{-f_1-f_1-d} = \frac{f_1}{d}$

$$b = m\left(f_1 - \frac{f_1}{m} - \frac{f_1}{m}\right) > 0 \qquad \Leftrightarrow \quad d = \frac{f_1}{m}$$

pro $m^2 - m - 1 > 0$

$$m_{1,2} = \frac{1 \pm \sqrt{5}}{2}$$

$$\Leftrightarrow \quad m > \frac{1+\sqrt{5}}{2}$$



$$\boxed{\varepsilon = \frac{D_2}{D_1} = \frac{f_1-d}{f_1} = \frac{f_1 - \frac{f_1}{m}}{f_1} = \frac{m-1}{m}}$$

$$m > \frac{1+\sqrt{5}}{2} \quad \Rightarrow \quad \varepsilon > \frac{\sqrt{5}-1}{\sqrt{5}+1} \sim 0.38$$

praxi: $m \cong 2 \quad \Rightarrow \quad \varepsilon \cong 0.5$

Zaclonění obecného Cassegr.

$$\varepsilon = \frac{D_L}{D_1} = \frac{b+d}{s} = \frac{f_1 - d}{f_1}$$

$b = 0$

$$d = m(f_1 - d)$$

$$d(m+1) = m f_1$$

$$d = \frac{m f_1}{m+1}$$

$$\varepsilon = \frac{d}{m f_1} = \frac{m f_1}{(m+1) m f_1} = \frac{1}{m+1}$$

$m \to \infty \qquad \varepsilon \to 0$

$\frac{1}{m+1}$ (oscný) $= \frac{m-1}{m}$ (plochý) pro $m = \frac{\sqrt{5}+1}{2}$

tj. $|f_1| = |f_2|$

WRIGHT

STOP - SHIFT

$$a_c = \frac{1}{R^2} - \frac{4(1+K)}{4R^3} L = \frac{1}{R^2}\left[1-(1+K)\sigma\right]$$

$$a_a = \frac{1}{R} - 2L\frac{1}{R^2} + 4L^2\frac{(1+K)}{4R^3} = \frac{1}{R}\left(1-2\sigma+(1+K)\sigma^2\right)$$

$$a_c = 0 \Rightarrow 1-(1+K)\sigma = 0 \Rightarrow \sigma = \frac{1}{1+K}$$

WRIGHT

$$\sigma = \frac{1}{2} \Rightarrow K = 1$$

$$a_a = \frac{1}{R}\left(1-1+2\frac{1}{4}\right) = \frac{1}{2R}$$ (polovina pro ap. na zr.)

větší barevná vada - elipsoid má větší SA

návrh SCT

① sférický

	RD	TH	GLASS	POLN.
1	0	5	BK7	ASF
2	0	300	—	—
3	-800	-295	REFL	—
4	-260 (S_1)	S_2	REFL	—

S_1 : axial angle $-0,05$ → $f = 2000$, $RD(3) = -258,72$

S_2 : -"- height 0

optim. AD(2) SA = 0

slider wheel CV(2), AD(2)

⇒ $RD(2) = -5,555 \cdot 10^{4}$

$AD(2) = 6,7 \cdot 10^{-10}$

② asférický

optim CC(4), AD(2) a SAJ = CMAJ = 0

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$-0,842745$ $7,7 \cdot 10^{-10}$

slider wheel CV(2), AD(2) ⇒ $RD(2) = -4,34 \cdot 10^{4}$

$AD(2) = 7,77 \cdot 10^{-10}$

RD(IMS) ~ -170