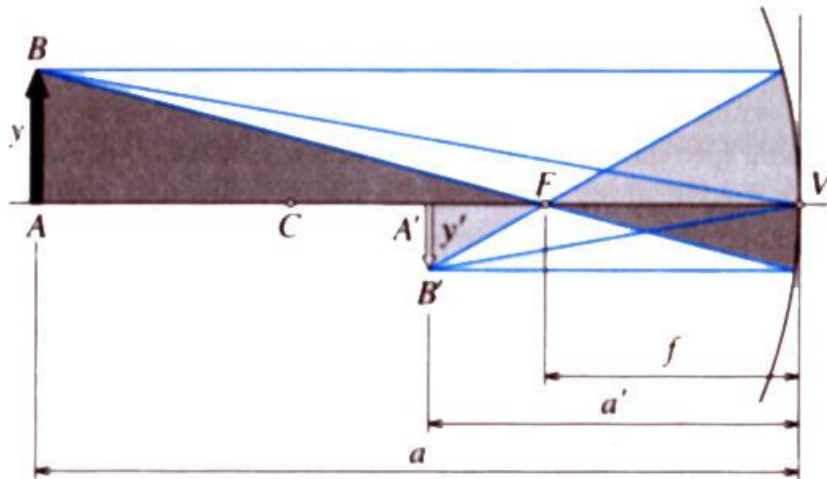


Zobrazovací rovnice

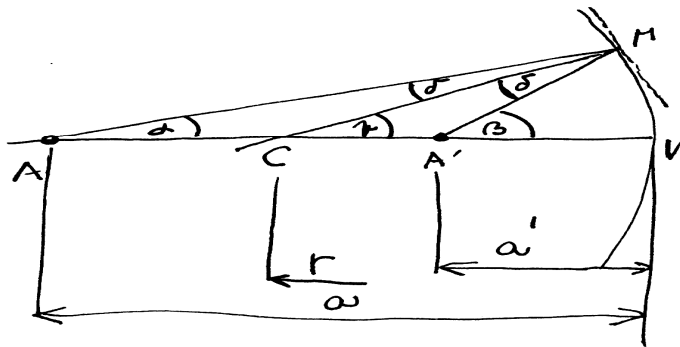
$$Z = \frac{y'}{y}$$

Zvětšení(příčné)



$$Z = \frac{y'}{y} = -\frac{a'}{a} = -\frac{a'-f}{f} = -\frac{f}{a-f}$$

Odvození zobrazovací rovnice : (Gaussův vztah - vrcholová rovnice)



$$\operatorname{tg} \alpha = \frac{MV}{a} = \alpha$$

$$\operatorname{tg} \beta = \frac{MV}{a'} = \beta$$

$$\operatorname{tg} \gamma = \frac{MV}{f} = \gamma$$

$$\alpha + \delta = \gamma$$

$$\beta + \delta = \gamma$$

$$\alpha - \gamma = \gamma - \beta$$

$$\alpha + \beta = 2\gamma$$

$$\frac{MV}{a} + \frac{MV}{a'} = \frac{2MV}{f}$$

$$\boxed{\frac{1}{a} + \frac{1}{a'} = \frac{1}{f}}$$

Zobrazovací rovnice Newtonův vztah - ohnisková rovnice

$$a = f + q$$

$$a' = f + q'$$

$$\frac{1}{f+q} + \frac{1}{f+q'} = \frac{1}{f}$$

$$\frac{(f+q') + (f+q)}{(f+q)(f+q')} = \frac{1}{f}$$

$$(2f + q' + q) \cdot f = f^2 + q'f + qf + qq'$$

$$2f^2 + q'f + qf = f^2 + q'f + qf + qq'$$

$$\boxed{qq' = f^2}$$