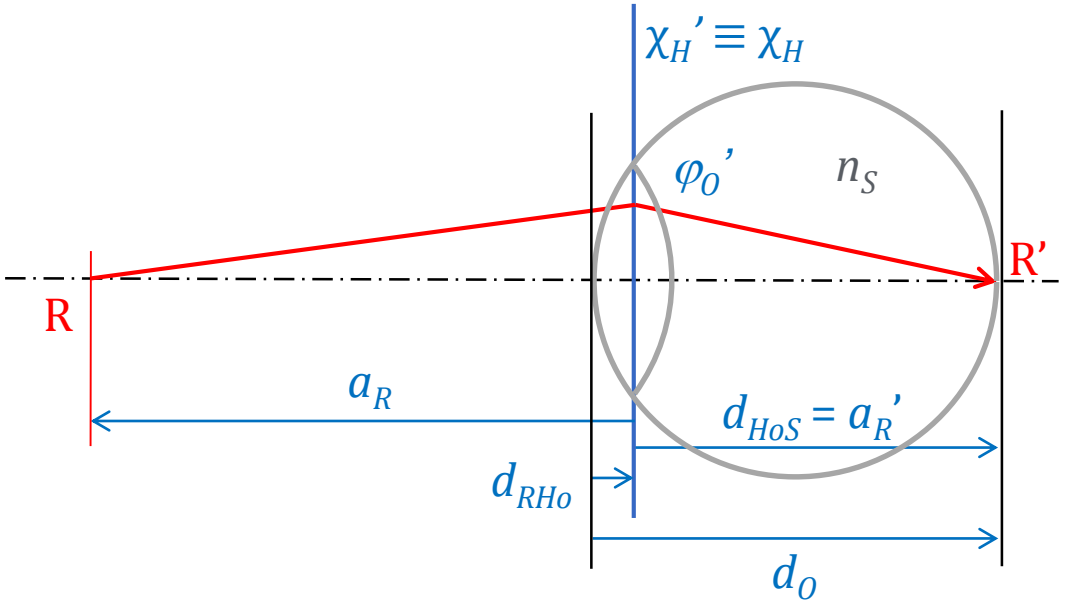
povaha axiální refrakce a velikost obrazů

dvě formy ametropie



$\varphi_O'^E = 58{,}64$ D

$d_O{}^E = 24{,}385$ mm

$d_{RHo} = 1{,}602$ mm

$a_R{}^E \to \infty$

$n_S = 1{,}336$

celková ametropie: $A_R = \frac{1}{a_R} = A_{RO} + A_{RS}$

systémová ametropie: $A_{RS} = \varphi_O'^E - \varphi_O'$

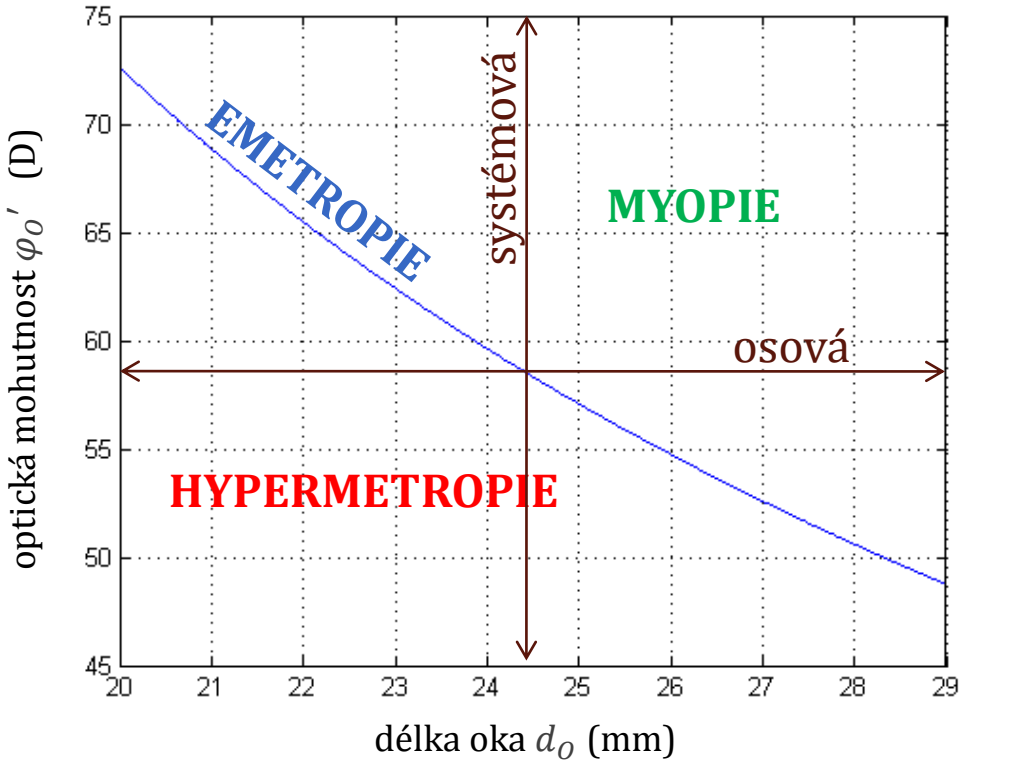
osová ametropie: $A_{RO} = \frac{n_S}{d_{HoS}} - \varphi_O'^E$

emetropická křivka

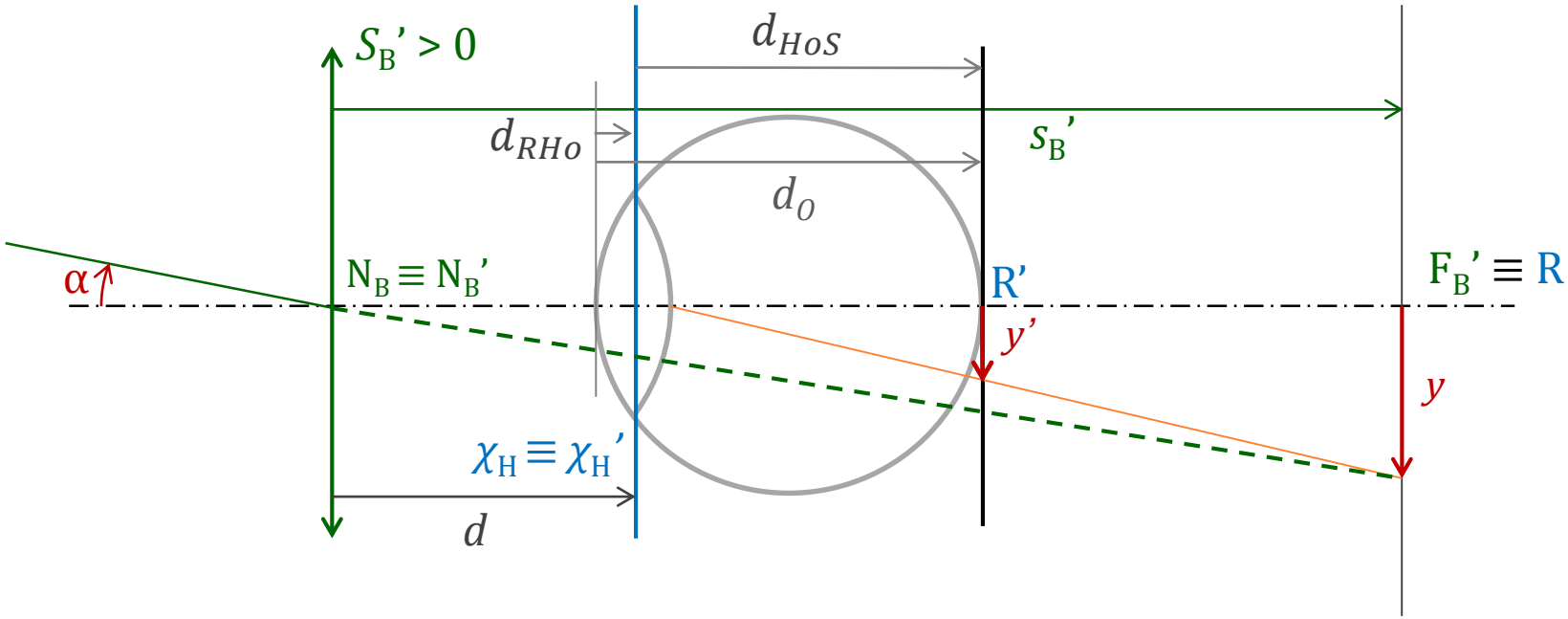
celková ametropie: $A_R = A_{RO} + A_{RS} = \frac{n_S}{d_{HoS}} - \varphi_O{}'$

emetropie: $A_R = 0 \quad \Rightarrow \quad \varphi_O{}' = \frac{n_S}{d_{HoS}} = \frac{n_S}{d_O - d_{RHo}}$

$d_{RHo} = 1{,}602$ mm



velikost obrazu na sítnici



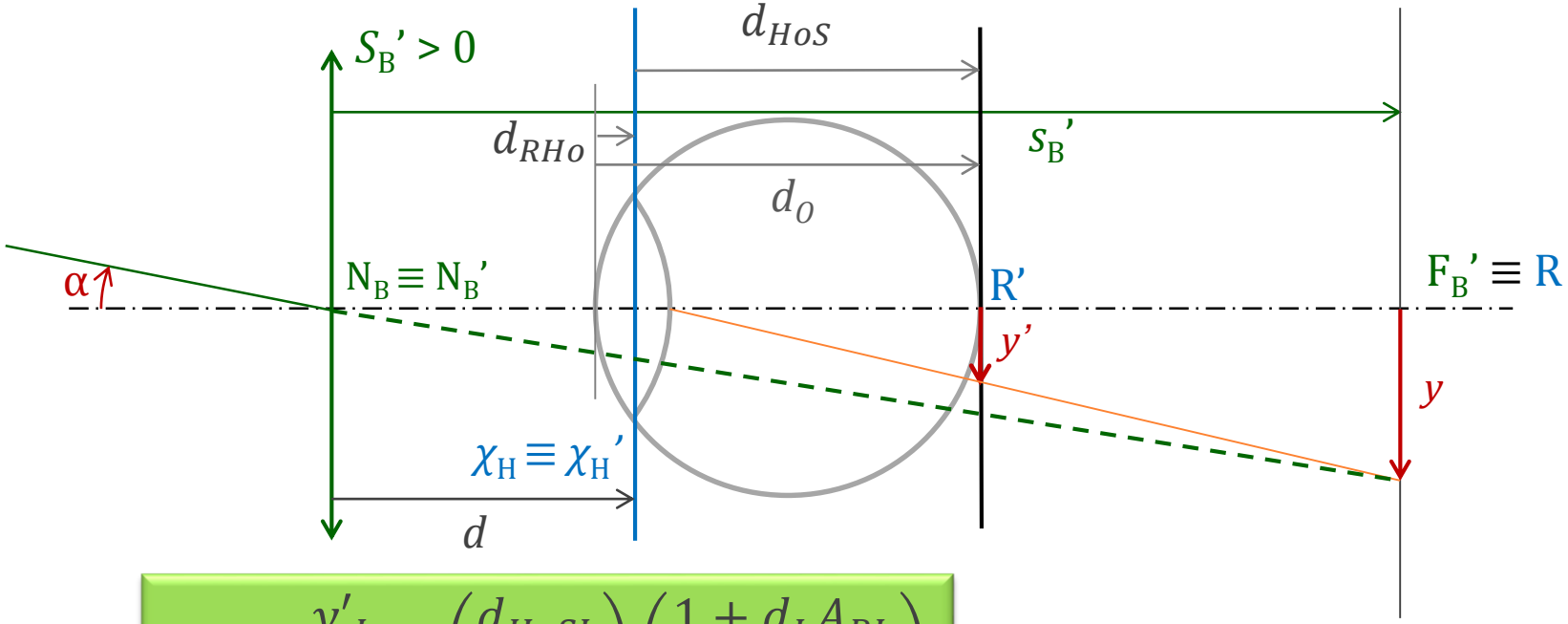
vzdálenost obrazové hlavní roviny od sítnice

vzdálenost brýlové čočky od oka

$$y' = \frac{d_{HoS}}{n_S}(1 + dA_R)\,\mathrm{tg}\,\alpha$$

n sklivce

velikost obrazu na sítnici

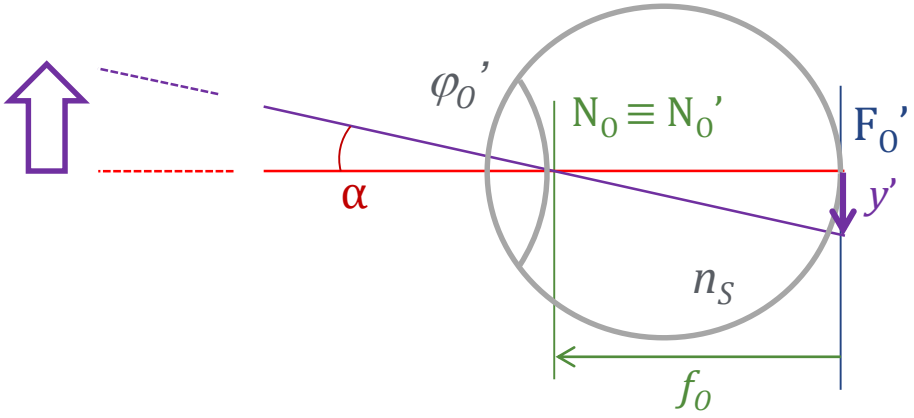


$$\beta_{LP} = \frac{y'_L}{y'_P} = \left(\frac{d_{HoSL}}{d_{HoSP}}\right)\left(\frac{1 + d_L A_{RL}}{1 + d_P A_{RP}}\right)$$

$$\beta_{LP} = \frac{y'_L}{y'_P} = \left(\frac{d_{HoSL}}{d_{HoSP}}\right)\left(\frac{1 - d_P S'_{BP}}{1 - d_L S'_{BL}}\right)$$

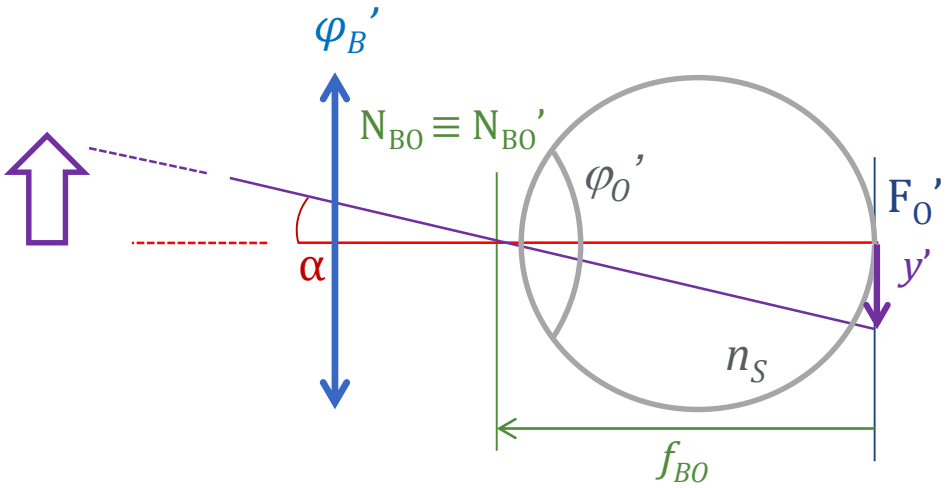
$$\beta_{LP} = \frac{y'_L}{y'_P} = \left(\frac{A_{ROP} + \varphi_O{}'^E}{A_{ROL} + \varphi_O{}'^E}\right)\left(\frac{1 + d_L A_{RL}}{1 + d_P A_{RP}}\right)$$

velikost obrazu na sítnici II



$$y' = -f_O \operatorname{tg} \alpha$$

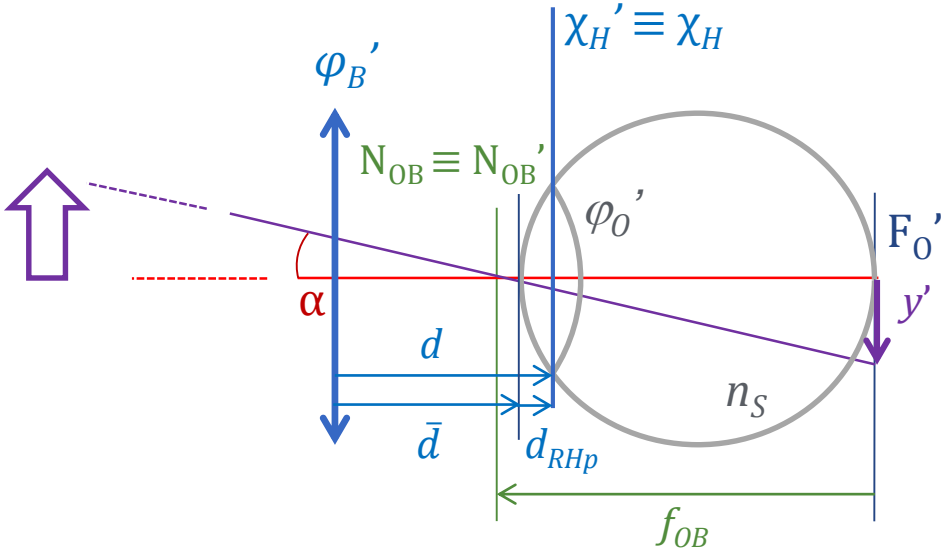
$$f_O = -\frac{1}{\varphi_O'}$$



$$y' = -f_{BO} \operatorname{tg} \alpha$$

$$f_{BO} = -\frac{1}{\varphi_{BO}'}$$

velikost obrazů na sítnici II



$$y' = -f_{BO}\,\mathrm{tg}\,\alpha$$

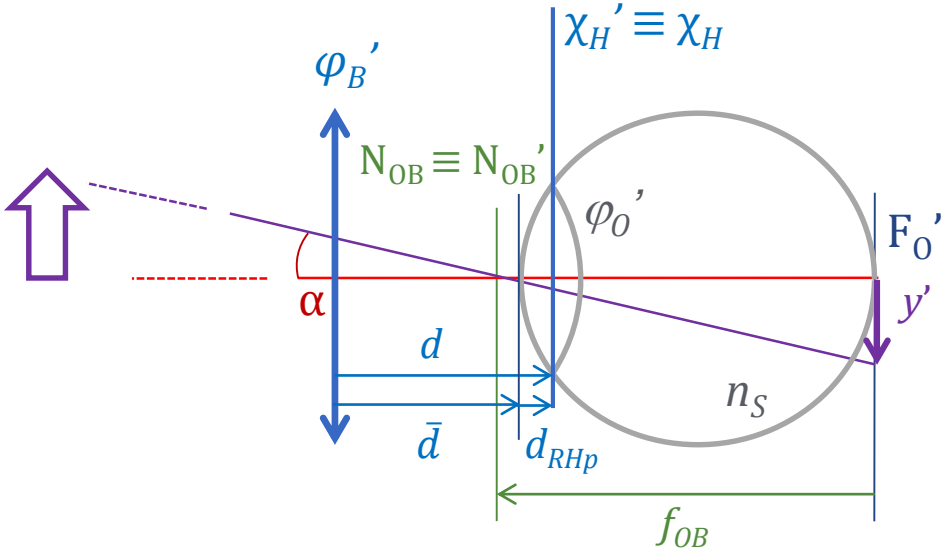
$$f_{BO} = -\frac{1}{\varphi_{BO}'}$$

$$d_{RHp} = 1{,}35\ \mathrm{mm}$$

$$\varphi_{BO}' = \varphi_B' + \varphi_O' - d\varphi_B'\,\varphi_O' \qquad \varphi_{BO}' = \frac{A_{RO} + \varphi_O'^E}{1 + dA_R}$$

$$\beta_{LP} = \frac{y'_L}{y'_P} = \frac{-f_{BOL}\,\mathrm{tg}\,\alpha}{-f_{BOP}\,\mathrm{tg}\,\alpha} = \frac{\varphi_{BOP}'}{\varphi_{BOL}'} = \left(\frac{A_{ROP} + \varphi_O'^E}{A_{ROL} + \varphi_O'^E}\right)\left(\frac{1 + d_L A_{RL}}{1 + d_P A_{RP}}\right)$$

velikost obrazů na sítnici II



$$y' = -f_{BO}\,\mathrm{tg}\,\alpha$$

$$f_{BO} = -\frac{1}{\varphi_{BO}'}$$

$$d_{RHp} = 1{,}35\ \mathrm{mm}$$

$$d_{RHo} = 1{,}602\ \mathrm{mm}$$

$$\varphi_{BO}' = \varphi_B' + \varphi_O' - d\varphi_B'\,\varphi_O' \qquad \varphi_{BO}' = \frac{n_S}{d_O - d_{RHo}}\,(1 - dS'_B)$$

$$\beta_{LP} = \frac{y'_L}{y'_P} = \frac{-f_{BOL}\,\mathrm{tg}\,\alpha}{-f_{BOP}\,\mathrm{tg}\,\alpha} = \frac{\varphi_{BOP}'}{\varphi_{BOL}'} = \left(\frac{d_{OL} - d_{RHo}}{d_{OP} - d_{RHo}}\right)\left(\frac{1 - d_P S'_{BP}}{1 - d_L S'_{BL}}\right)$$