$$f(p_{x1}, p_{x2}, p_{y1}) \rightarrow \begin{pmatrix} x \\ y \\ z \end{pmatrix}$$

1.) $\gamma_1 = \alpha_1 - \arctan\left(\frac{p_{x1}}{A_1}\right)$

$\gamma_2 = \alpha_2 - \arctan\left(\frac{p_{x2}}{A_2}\right)$

2.) $\delta = 180 - (\gamma_1 + \gamma_2)$

3.) $s_1 = \frac{a \cdot \sin(\gamma_1)}{\sin(\delta)}$

$s_1 = \frac{a \cdot \sin(\gamma_1)}{\sin(\gamma_1 + \gamma_2)}$

4.) $x_1 = s_1 \cdot \cos(\gamma_1)$

5.) $\beta_1 = \arctan\left(\frac{p_{y1}}{A_1}\right)$

6.) $\ell_1 = \frac{s_1}{\cos(\beta_1)}$

7.) $y = \ell_1 \cdot \sin(\varepsilon_1 + \beta_1)$

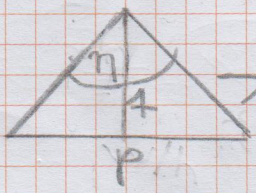
8.) $z = \sqrt{(\ell_1 \cdot \cos(\varepsilon_1 + \beta_1))^2 - x_1^2}$

Parameter

A_1, A_2: über "Bildwinkel" bestimmbar

$\alpha_1, \alpha_2, \varepsilon_1$: über "kalibrieren" zu bestimmen

Bildwinkel: η



$\frac{p}{2A} = \tan\left(\frac{\eta}{2}\right)$

$A = \frac{p}{2 \tan\left(\frac{\eta}{2}\right)}$

$\frac{w}{\tan\left(\frac{\eta_w}{2}\right)} = \frac{h}{\tan\left(\frac{\eta_h}{2}\right)}$