

$$\varphi_t = \arctan\left(\frac{y_A - y_B}{x_A - x_B}\right)$$

$$\chi = \varphi_t - \delta$$

$$AH = z_4 \sin \chi \quad LG = z_2 \sin \gamma$$

$$\alpha = \arccos\left(\frac{AH - LG}{z_1}\right)$$

$$\varphi_1 = \delta - \frac{\pi}{2} + \alpha$$

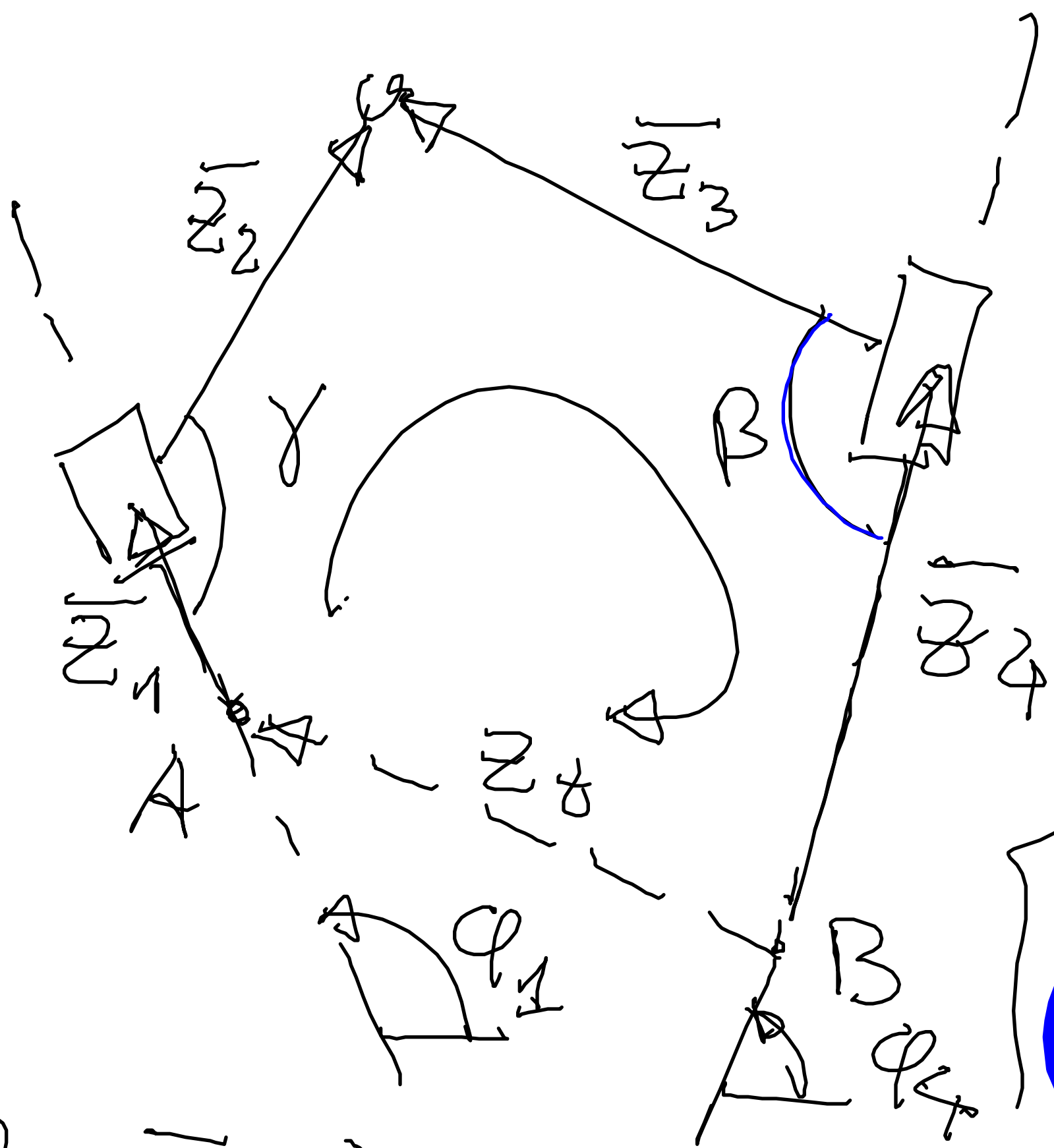
$$L B = A B - L A$$

$\uparrow \qquad \qquad \uparrow$

$Z_1 \subset X \qquad Z_1 \subset \alpha$

$Z_3 = L B - Z_2 \subset Y$

PRP



geom. : z_2, z_3, γ, β

noti : $A, B, \varphi_1, \varphi_4$

Inc : z_1, z_4

$$\bar{z}_1 + \bar{z}_2 - \bar{z}_3 - \bar{z}_4 + \bar{z}_5 = 0$$

$$\underbrace{z_1}_c \varphi_1 + \underbrace{z_2}_c \varphi_2 - \underbrace{z_3}_c \varphi_3 - \underbrace{z_4}_c \varphi_4 + \underbrace{z_5}_c \varphi_5 = 0$$

$$\underbrace{z_1}_s \varphi_1 + \underbrace{z_2}_s \varphi_2 - \underbrace{z_3}_s \varphi_3 - \underbrace{z_4}_s \varphi_4 + \underbrace{z_5}_s \varphi_5 = 0$$

$$\varphi_2 = \varphi_1 - \eta + \gamma$$

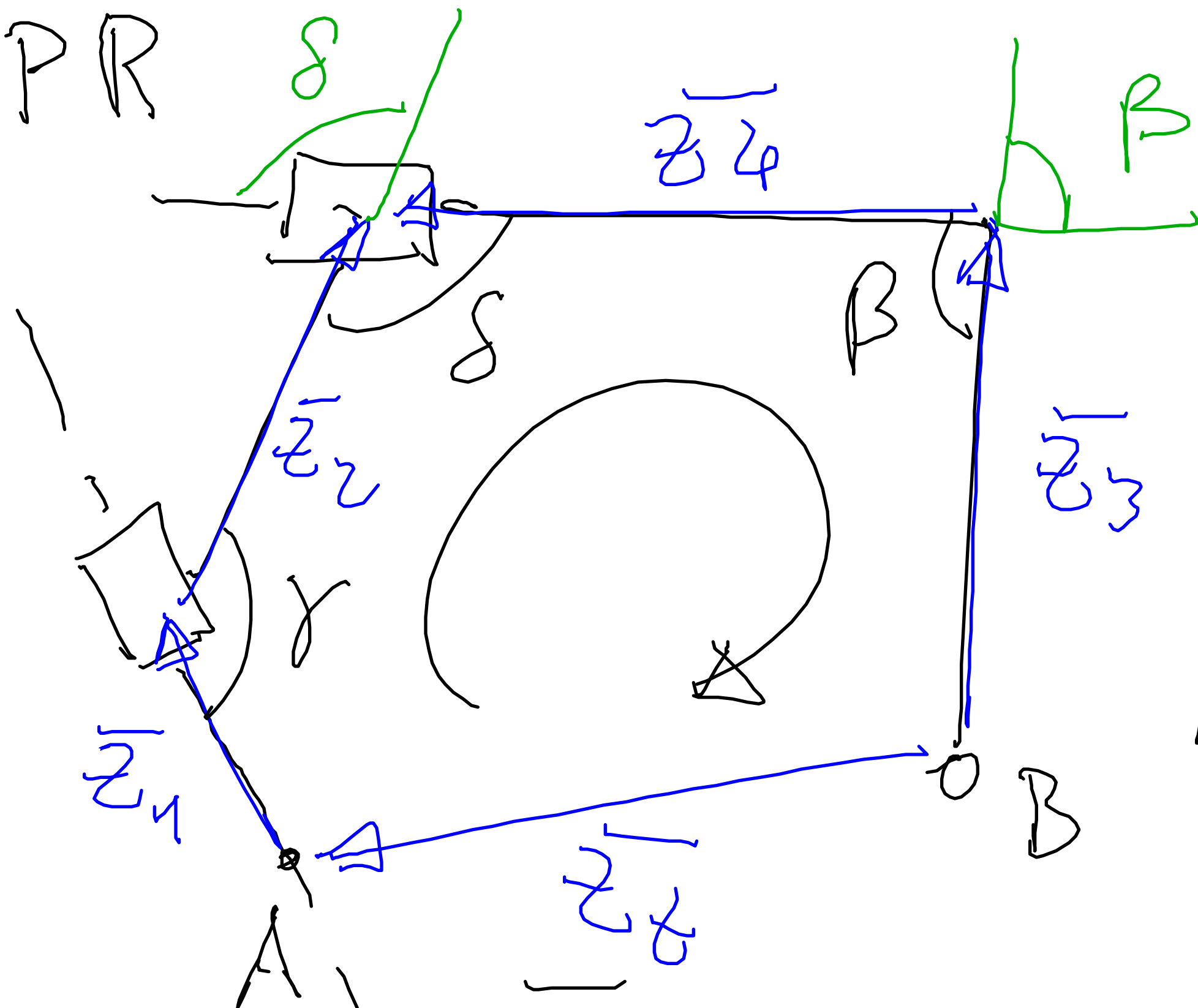
$$\varphi_3 = \varphi_4 + \eta - \beta$$

$$\begin{bmatrix} c\varphi_1 & -c\varphi_4 \\ s\varphi_1 & -s\varphi_4 \end{bmatrix} \begin{Bmatrix} z_1 \\ z_4 \end{Bmatrix} = \begin{Bmatrix} d_1 \\ d_2 \end{Bmatrix}$$

$$\begin{cases} d_1 \\ d_2 \end{cases} = \begin{cases} -z_2 c\phi_2 + z_3 c\phi_3 - z_t c\phi_t \\ -z_2 s\phi_2 + z_3 s\phi_3 - z_t s\phi_t \end{cases}$$

$$\begin{cases} z_1 \\ z_2 \end{cases} = \dots$$

PPR



Geom: $z_2, z_3, \gamma, \delta, \beta$

moti: B, A, ϕ_1

INC: z_1, z_4

$$\begin{bmatrix} c\phi_1 - c\phi_4 \\ s\phi_1 - s\phi_4 \end{bmatrix} \begin{bmatrix} z_1 \\ z_4 \end{bmatrix} = \begin{bmatrix} d_1 \\ d_2 \end{bmatrix}$$

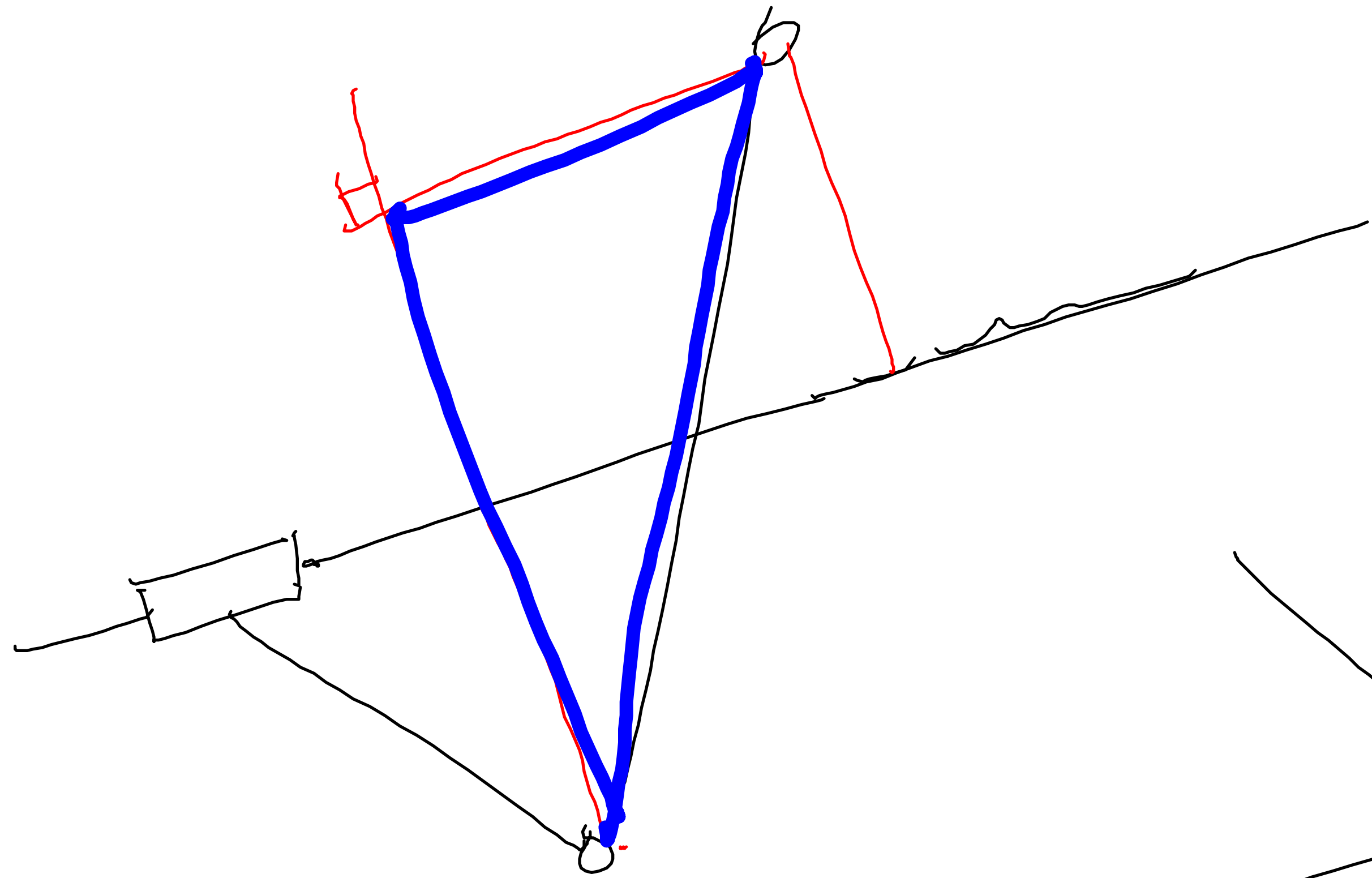
$$\bar{z}_1 + \bar{z}_2 - \bar{z}_4 - \bar{z}_3 + \bar{z}_\epsilon = 0$$

$$\begin{aligned} z_1 c\phi_1 + z_2 c\phi_2 - z_4 c\phi_4 - z_3 c\phi_3 + z_\epsilon c\phi_\epsilon &= 0 \\ z_1 s\phi_1 + z_2 s\phi_2 - z_4 s\phi_4 - z_3 s\phi_3 + z_\epsilon s\phi_\epsilon &= 0 \end{aligned}$$

$$\phi_2 = \phi_1 - \pi + \gamma$$

$$\phi_4 = \phi_2 + \delta$$

$$\phi_3 = \phi_4 - \pi + \beta$$



$R R R$
 $*$ $\begin{bmatrix} P & R & R \\ R & P & R \end{bmatrix}$ $*$
 $P P P$
 $P R P$ } linear

