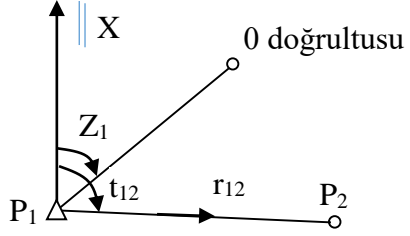


- Yatay Doğrultu ölçüleri için Düzeltme Denklemi Yazılması



$$\hat{r}_{12} + Z_1 = \hat{t}_{12}$$

$$\hat{r}_{12}^{\text{ölçü}} + V_1 + Z_1 = \hat{t}_{12} \Rightarrow \hat{r}_{12}^{\text{ölçü}} + V_1 + Z_1 = \arctan \frac{(Y_2 - Y_1)}{(X_2 - X_1)}$$

$$V_i = -z + \arctan \frac{(Y_2 - Y_1)}{(X_2 - X_1)} - r_i \text{ doğrusallaştırmak için } X_1 = X_1^0 + dx_1; Y_1 = Y_1^0 + dy_1 \quad X_2 = X_2^0 + dx_2; Y_2 = Y_2^0 + dy_2 \text{ ve } Z_1 = Z_1^0 + dz_1 \text{ ile Taylor serisine}$$

açılırsa;

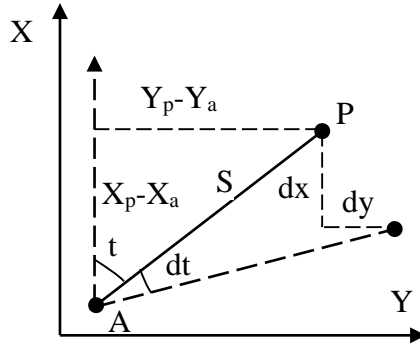
$$\hat{t}_{12} = \arctan \frac{(Y_2 - Y_1)}{(X_2 - X_1)} \Rightarrow \hat{t}_{12} = t_{12}^0 + \frac{\partial t}{\partial X_1} dx_1 + \frac{\partial t}{\partial Y_1} dy_1 + \frac{\partial t}{\partial X_2} dx_2 + \frac{\partial t}{\partial Y_2} dy_2 \quad \underbrace{+ \dots}_{\text{ihmal edilir}}$$

$$\frac{\partial t}{\partial X_1} = -\frac{-\frac{(Y_2 - Y_1)}{(X_1 - X_1)^2}}{1 + \left(\frac{Y_2 - Y_1}{X_2 - X_1}\right)^2} = \frac{(Y_2 - Y_1)}{(X_2 - X_1)^2 + (Y_2 - Y_1)^2} \Rightarrow \frac{\partial t}{\partial X_p} = \frac{Sint}{S}$$

$$\frac{\partial t}{\partial Y_1} = -\frac{\frac{(X_2 - X_1)}{(X_2 - X_1)^2}}{1 + \left(\frac{Y_2 - Y_1}{X_2 - X_1}\right)^2} = -\frac{(X_1 - X_1)}{(X_2 - X_1)^2 + (Y_2 - Y_1)^2} \Rightarrow \frac{\partial t}{\partial Y_p} = -\frac{Cost}{S}$$

$$\frac{\partial t}{\partial X_2} = \frac{-\frac{(Y_2 - Y_1)}{(X_1 - X_1)^2}}{1 + \left(\frac{Y_2 - Y_1}{X_2 - X_1}\right)^2} = -\frac{(Y_2 - Y_1)}{(X_2 - X_1)^2 + (Y_2 - Y_1)^2} \Rightarrow \frac{\partial t}{\partial X_p} = -\frac{Sint}{S}$$

$$\frac{\partial t}{\partial Y_2} = \frac{\frac{(X_2 - X_1)}{(X_2 - X_1)^2}}{1 + \left(\frac{Y_2 - Y_1}{X_2 - X_1}\right)^2} = \frac{(X_1 - X_1)}{(X_2 - X_1)^2 + (Y_2 - Y_1)^2} \Rightarrow \frac{\partial t}{\partial Y_p} = \frac{Cost}{S}$$



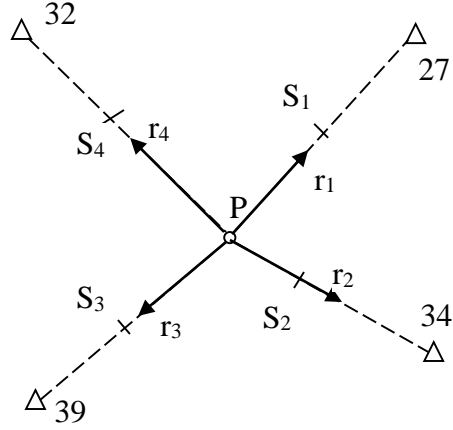
$$a = -\frac{\text{Sint}}{S}, b = \frac{\text{Cost}}{S} \text{ yazılırsa;}$$

$$V_1 = -dz_1 - adx_1 - bdy_1 + adx_1 + bdy_1 + \arctan \frac{(Y_2^0 - Y_1^0)}{(X_2^0 - X_1^0)} - Z_1^0 - r_{12}^{\text{ölçü}}$$

$$-\ell_1 = \arctan \frac{(Y_2^0 - Y_1^0)}{(X_2^0 - X_1^0)} - Z_1^0 - r_{12}^{\text{ölçü}} \text{ alınırsa;}$$

$$V_1 = -dz_1 - adx_1 - bdy_1 + adx_1 + bdy_1 - \ell_1 \text{ eşitliği elde edilir.}$$

**Örnek :**



NN	Y	X
<b>27</b>	27320.592	23312.451
<b>32</b>	25496.384	21760.503
<b>34</b>	28874.917	21756.765
<b>39</b>	27284.266	20235.390

DN	BN	Doğrultu
<b>P</b>	<b>27</b>	0.0000
	<b>34</b>	80.90273
	<b>39</b>	160.68555
	<b>32</b>	276.73136

**1.** P noktasının yaklaşık koordinatları

$$X_p = 21811.688 \text{ m.} ; Y_p = 26812.213 \text{ m.}$$

**2.** Düzeltme denklemleri

$$V_1 = -dz - a_1 dx_p - b_1 dy_p + a_1 dx_{27} + b_1 dy_{27} - \ell_1$$

$$V_2 = -dz - a_2 dx_p - b_2 dy_p + a_2 dx_{34} + b_2 dy_{34} - \ell_2$$

$$V_3 = -dz - a_3 dx_p - b_3 dy_p + a_3 dx_{39} + b_3 dy_{39} - \ell_3$$

$$V_4 = -dz - a_4 dx_p - b_4 dy_p + a_4 dx_{32} + b_4 dy_{32} - \ell_4$$

$$; z_0 = \frac{[t_0 - r_i]}{4}$$

DN	BN	Doğrultu	Semt	S <sub>i</sub>	[t <sub>i</sub> – r <sub>i</sub> ]	-ℓ <sub>i</sub> =[t <sub>i</sub> – r <sub>i</sub> ]-z <sub>0</sub>	a <sub>i</sub>	b <sub>i</sub>
<b>P</b>	<b>27</b>	0.0000	20.79295	1584.531	20.79295	6.7 <sup>cc</sup>	-1.2890	3.8053
	<b>34</b>	80.90273	101.69471	2063.435	20.79198	-3 <sup>cc</sup>	-3.0841	-0.0821
	<b>39</b>	160.68555	181.47628	1645.463	20.79093	-15.5 <sup>cc</sup>	-1.1099	-3.7063
	<b>32</b>	276.73136	297.52483	1316.824	20.79347	11.9 <sup>cc</sup>	4.8309	-0.1879

$$z_0 = 20.79228 \quad -[\ell] = 0$$

- Uzunluklar cm.  $\rho^{cc}$  olarak alınarak a ve b katsayıları oluşturulur.

$$a_i = -\frac{S_{int}}{S} \rho; \quad b_i = \frac{C_{ost}}{S} \rho; \quad -\ell_i = t_0 - Z_0 - r_i$$

$$V_1 = -dz + 1.2890dx_p - 38.053dy_p + 6.7$$

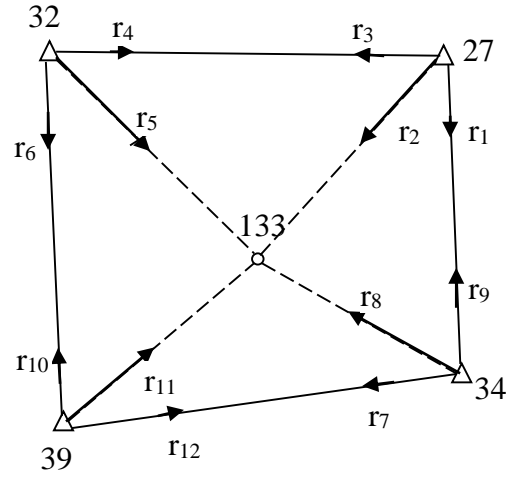
$$V_2 = -dz + 3.0841dx_p + 0.0821dy_p - 3$$

$$V_3 = -dz + 1.1099dx_p + 3.7063dy_p - 15.5$$

$$V_4 = -dz - 4.8.309dx_p + 0.1879dy_p + 11.9$$

...

Örnek :



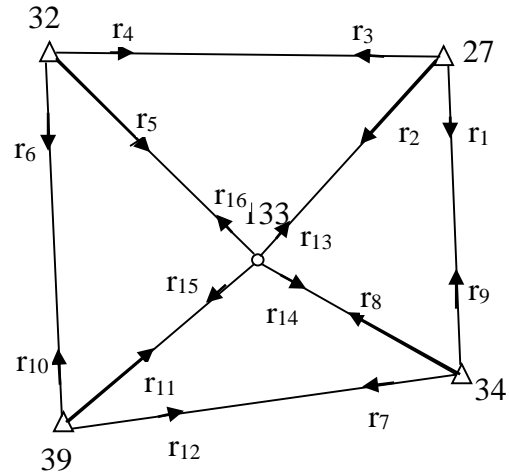
NN	Y	X
27	27320.592	23312.451
32	25496.384	21760.503
34	28874.917	21756.765
39	27284.266	20235.390

DN	BN	Doğrultu	DN	BN	Doğrultu
27	34	0.0000	34	39	0.0000
	133	70.76351		133	50.28006
	32	105.09584		27	98.61182
32	27	0.0000	39	32	0.0000
	133	42.40162		133	36.51504
	39	89.83755		34	106.4552/

# ABRIS

[illegible]

Örnek :



NN	Y	X
27	27320.592	23312.451
32	25496.384	21760.503
34	28874.917	21756.765
39	27284.266	20235.390

DN	BN	Doğrultu	DN	BN	Doğrultu
27	34	0.0000	34	39	0.0000
	133	70.76351		133	50.28006
	32	105.09584		27	98.61182
32	27	0.0000	39	32	0.0000
	133	42.40162		133	36.51504
	39	89.83755		34	106.45528
133	27	0.00000			
	34	80.90273			
	39	160.68555			
	32	276.73136			



[illegible]