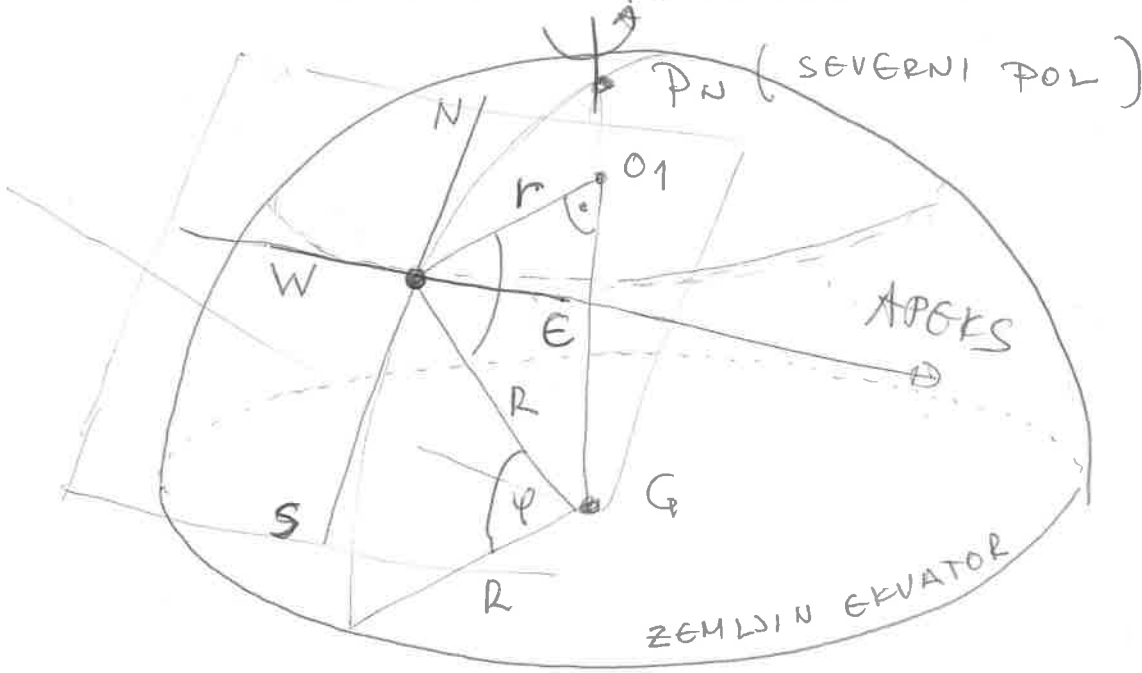


DNEVNA ABERACIJA

POSLEDICA ZEMLJINE POTACISE OKO SVOJE OSE



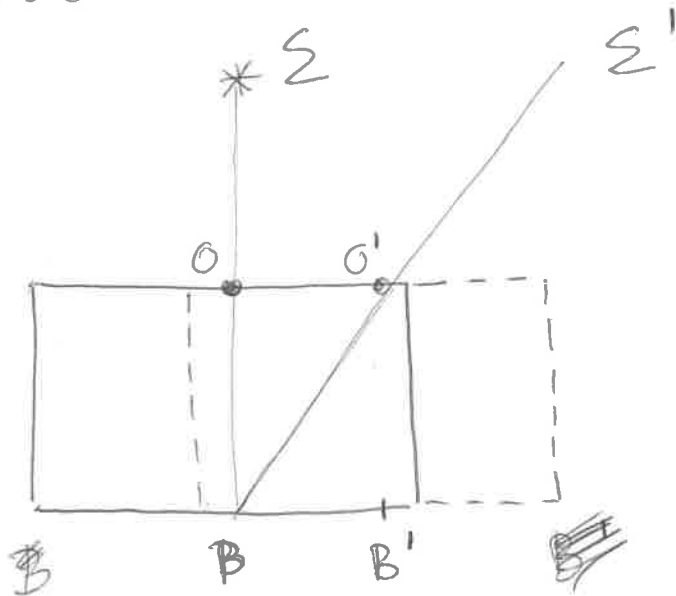
$$r = R \cos \varphi$$

$$V_{\varphi} = \frac{2\pi r}{P} = \frac{2\pi R \cos \varphi}{P} = V_e \cos \varphi$$

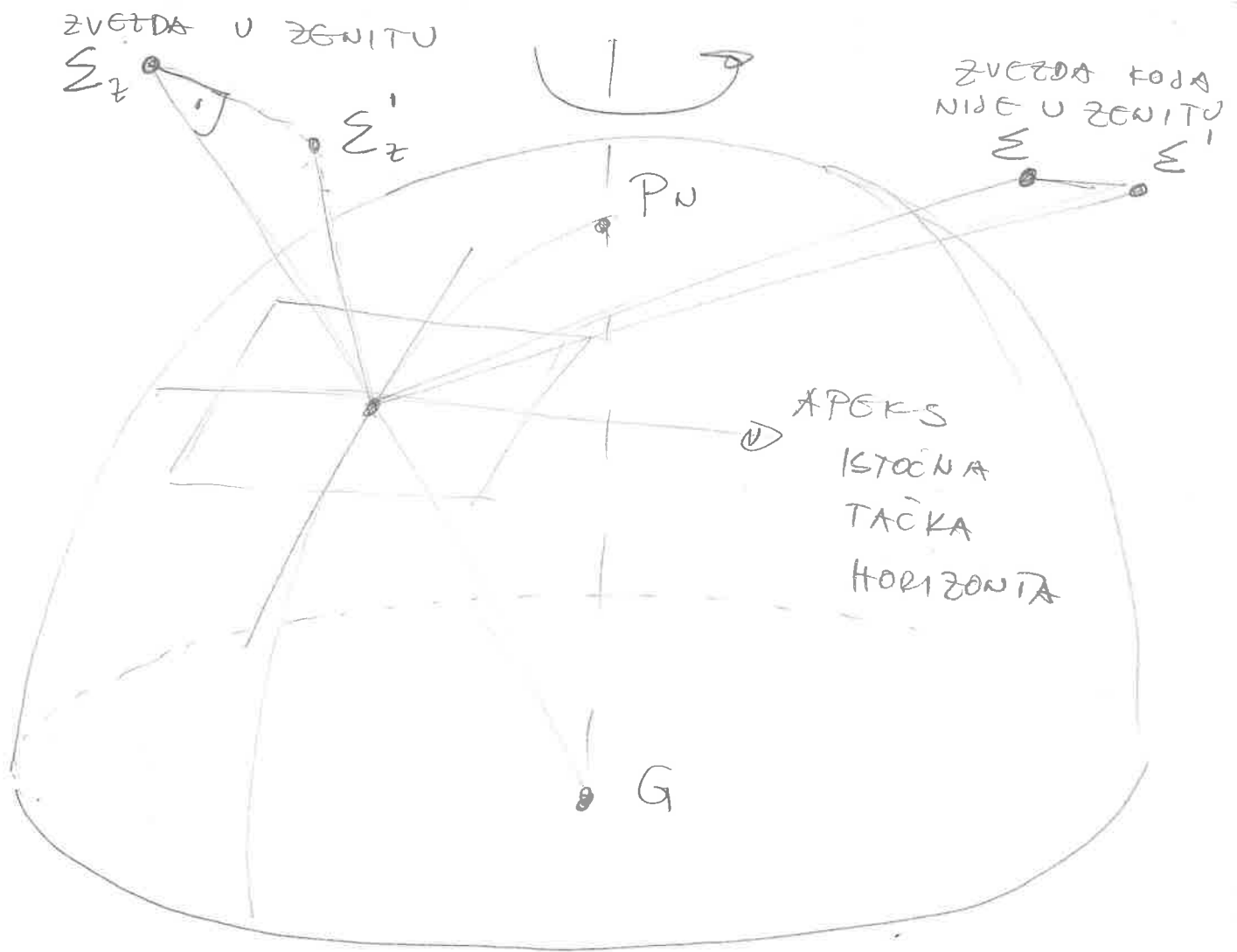
P - PERIOD ROTACIDE ZEMLJE

V_e - TANGENCIJALNA BRZINA NA EKVATORU

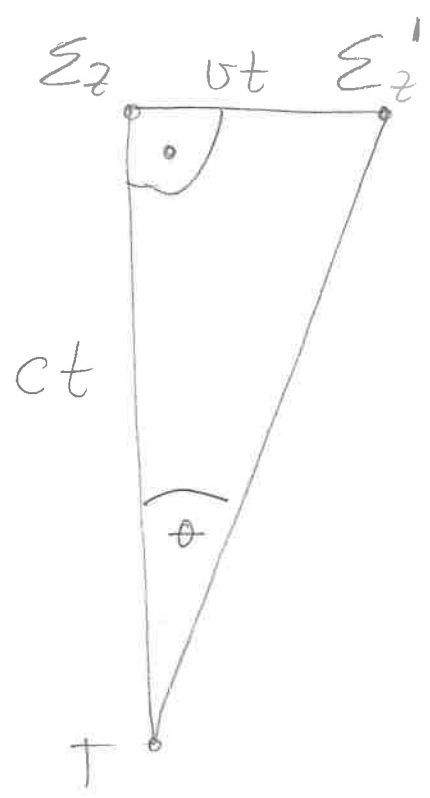
ABERACIJA SVETLOSTI NASTAJE JER JE
BRZINA SVETLOSTI KONAČNA, SAMIM TIM
SVETLOSTI JE POTREBNO NEKO KONAČNO VREME
DA PROĐE KROZ TUBU TELESKOPA. TOFOM TOG
VREMENA ~~SE~~ POSMATRAČ SE ~~PREĆE~~ USLED
ROTACIJE I REVOLUCIJE



AKO BI NEKO GADAO VAGON ~~U~~ U POKRETU
IZ LOKACIJE Σ U PRAVCU $\odot$, POGOUDIO
BI TAČKU B KOJA SE NALAZI NA LEVOJ
STRANI VAGONA. DO ISTOG REZULTATA
BI DOŠLO AKO BI GADAO IZ LOKACIJE
 Σ' KROZ O' , A DA VAGON MIRUJE.

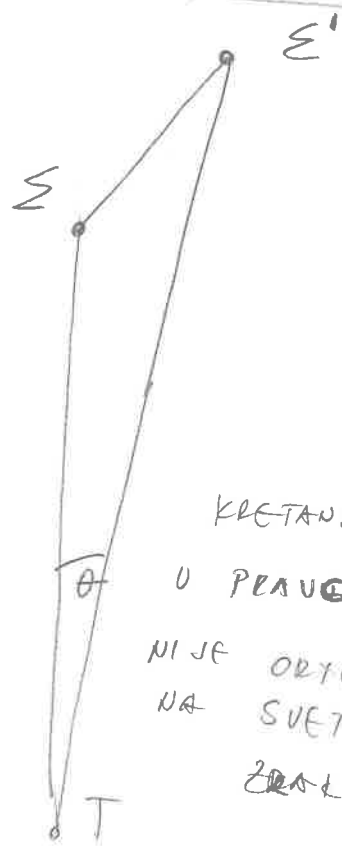


ZVEZDA U ZENITU



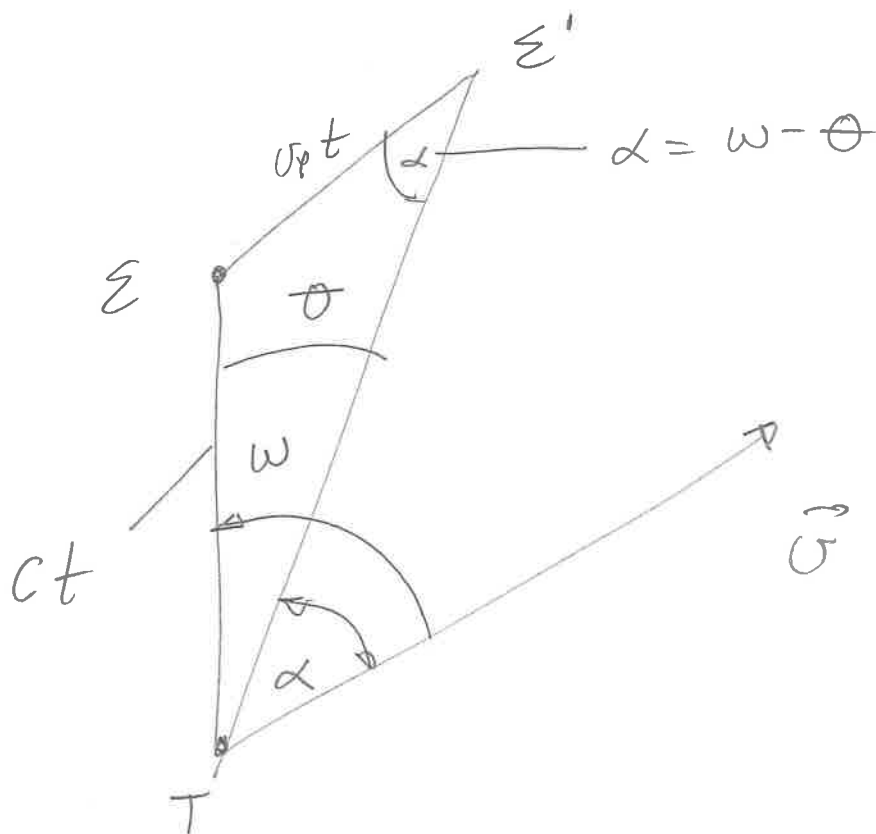
KRETANJE POSMATRAČA U
PRAVCU ORTOGONALNOM NA
SVETLOSNE ZRAKE

ZVEZDA NIJE U ZENITU



KRETANJE POSMATRAČA
U PRAVCU KOJI
NIJE ORTOGONALAN
NA SVETLOSNE
ZRAKE

ZVEZDA NIE U ZENITU



$\Delta \Sigma \Sigma' T$

$$\frac{\sin \theta}{v_p t} = \frac{\sin (\omega - \theta)}{ct}$$

$$\theta \approx \sin \theta = \frac{v_p}{c} \sin (\omega - \theta) \approx \frac{v_p}{c} \sin \omega$$

$$\theta'' = \theta(\text{rad}), \sin 1'' \approx \sin [\theta(\text{rad})] 1''^c$$

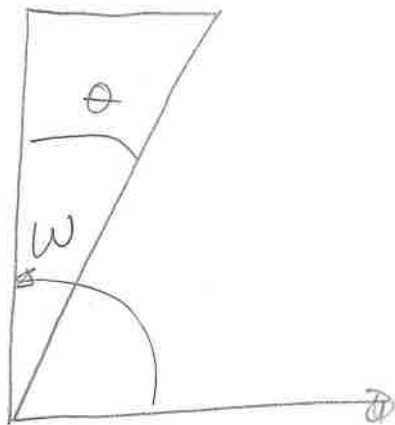
$$\Rightarrow \theta'' = \frac{v_p}{c \sin 1''} \sin \omega$$

KONSTANTA ABERACIJE k_p (ZA DATU GEOGRAFSKU ŠIRINU φ)

$$k_p = \frac{v_p}{c \sin 1''} = \frac{v \cos \varphi}{c \sin 1''} = k' \cos \varphi$$

k' - KONSTANTA DREVNE ABERACIJE NA EKVATORU

KADA JE ZVEZDA U ZENITU ONDA JE
UGAO KOD Σ PRAV ($W = 90^\circ$)



SADA JE

$$\theta = \frac{v_e}{c \sin 1''} = k_\gamma = k \cos \varphi$$

ZA ZVEZDU U ZENITU ABERACIJSKI

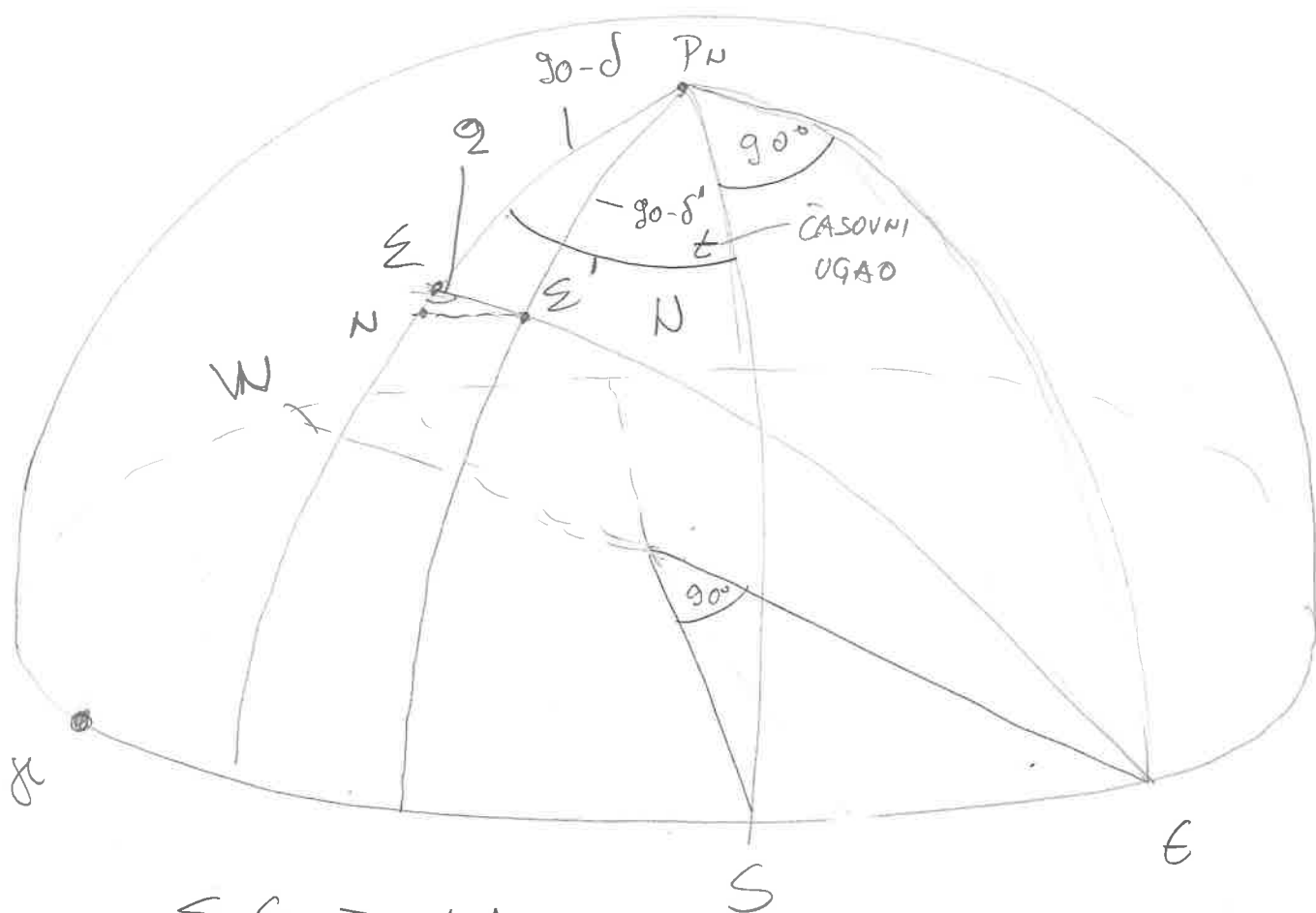
UGAO JE JEDNAK KONSTANTI ABERACIJE

$$k' = \frac{v_e}{c \sin 1''} \approx 32''$$

DAKLE, USLED DNEVNE ABERACIJE POLOZAJ
ZVEZDE BIĆE POMEREN ~~KA~~ ISTOČNOJ TACNI
HORIZONTA ZA MALI UGAO

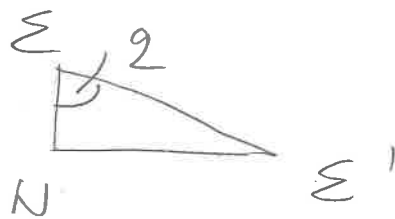
$$\Sigma \Sigma' = 32'' \cdot \cos \varphi \sin W$$

UTICAJ DNEVNE ABERACIJE NA
EKVATORSKE KOORDINATE



$$\Sigma \in \omega$$

$$\Delta \Sigma \Sigma' N$$



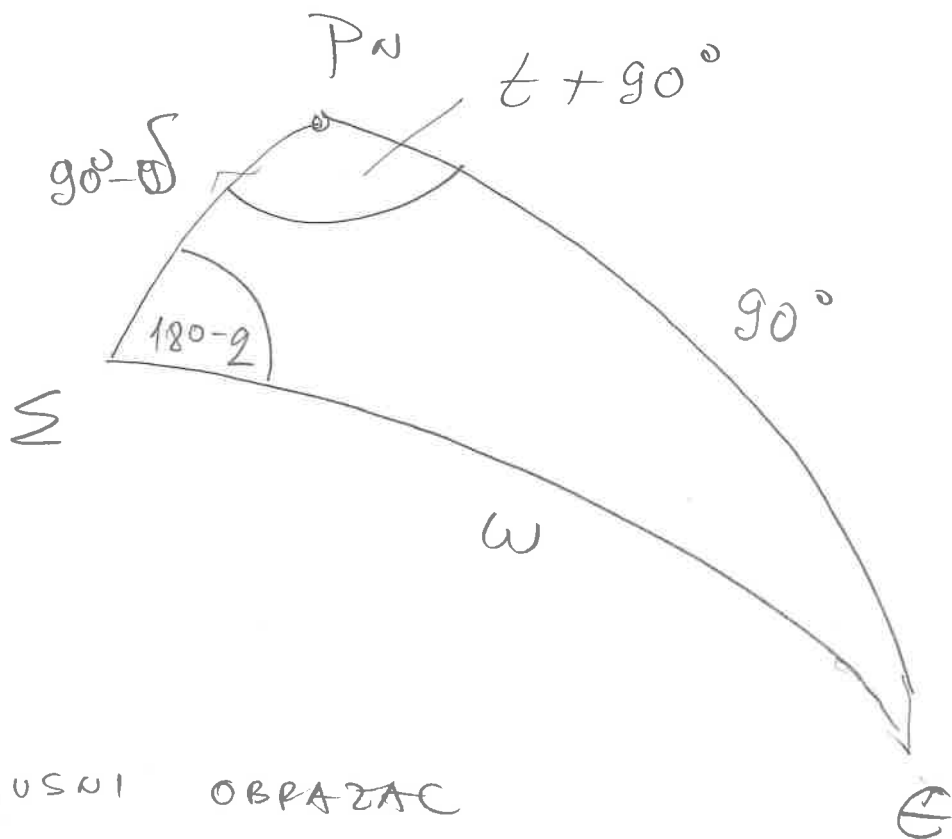
$$(1) \begin{cases} \delta' - \delta = \Sigma N = \Sigma \varepsilon' \cos \varphi = k \varphi \sin w \cos \varphi \\ (\alpha' - \alpha) \cos \delta = \Sigma' N = \Sigma \varepsilon' \sin \varphi = k \varphi \sin w \sin \varphi \end{cases}$$

$$\sin w \cos z \quad i \quad \sin w \sin z \quad \text{DOBIVAMO}$$

12

$$\Delta \Sigma P_N \in$$

⑥



- SINUSNI OBRAZAC

$$\frac{\sin \omega}{\sin(t + 90^\circ)} = \frac{\sin 90^\circ}{\sin(180 - 2)} = \frac{1}{\sin(2)}$$

$$\sin \omega \sin 2 = \sin(t + 90^\circ) = \cos t$$

- SINUSNO - KOSINUSNI OBRAZAC

$$\sin \omega \cos(180 - 2) = \cancel{\cos 90^\circ} \sin(90 - \delta) = \sin 90^\circ \cos(90 - \delta),$$

$\cos(90 + t)$

$$-\sin \omega \cos 2 = \sin \delta \sin t$$

KADA SE OVI IZRAZI UVRSTE U (1) $\Rightarrow$

$$\alpha' - \alpha = k \varphi \sec \delta \cos t$$

$$\delta' - \delta = k \varphi \sin \delta \sin t$$