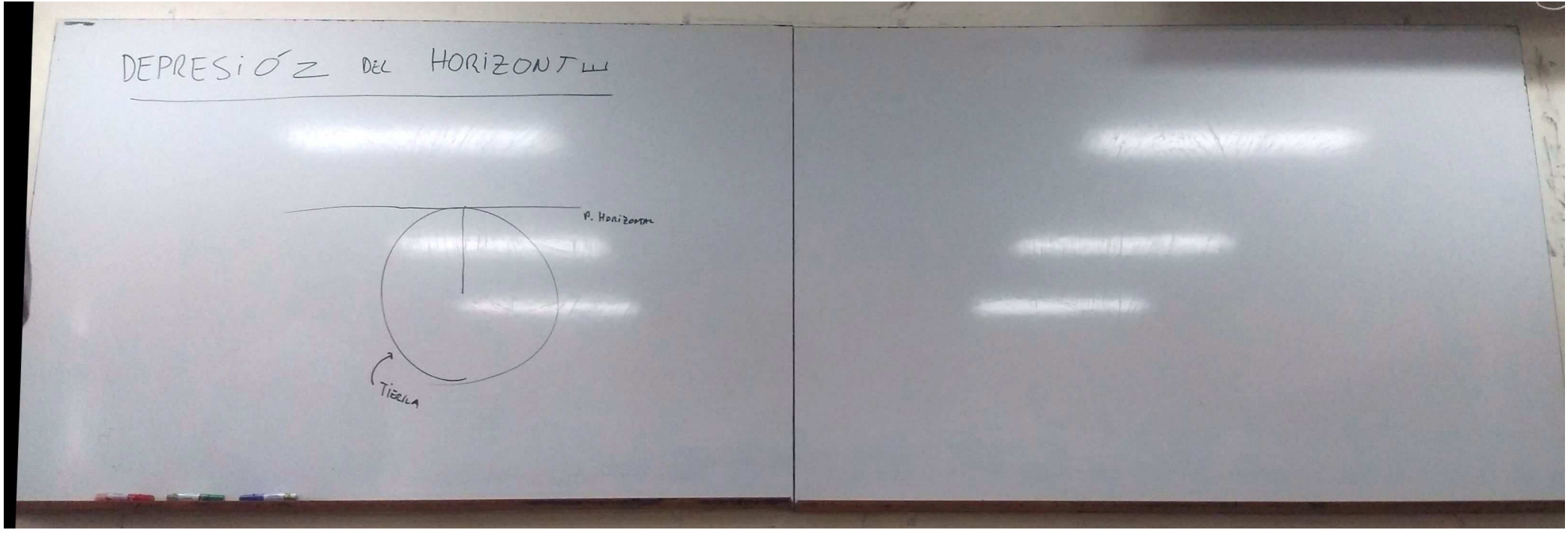
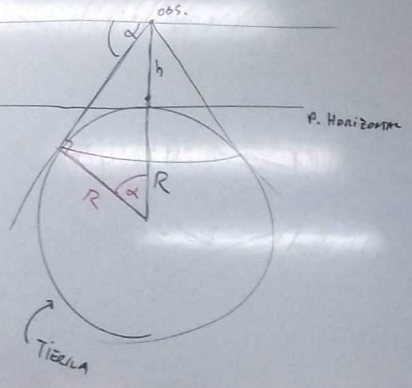

DEPRESIÓN DEL HORIZONTE
P. Horizontal
Tierra

DEPRESIÓN DEL HORIZONTE

α = DEPRESIÓN

$$\cos\alpha = \frac{R}{R+h} = \frac{1}{1+h/R}$$



DEPRESIÓN DEL HORIZONTE

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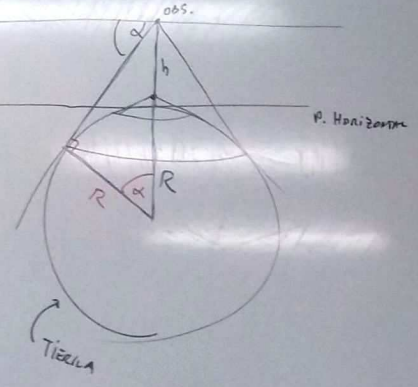
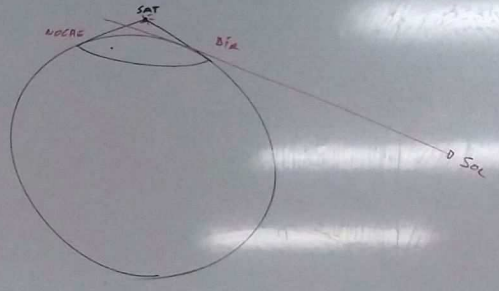
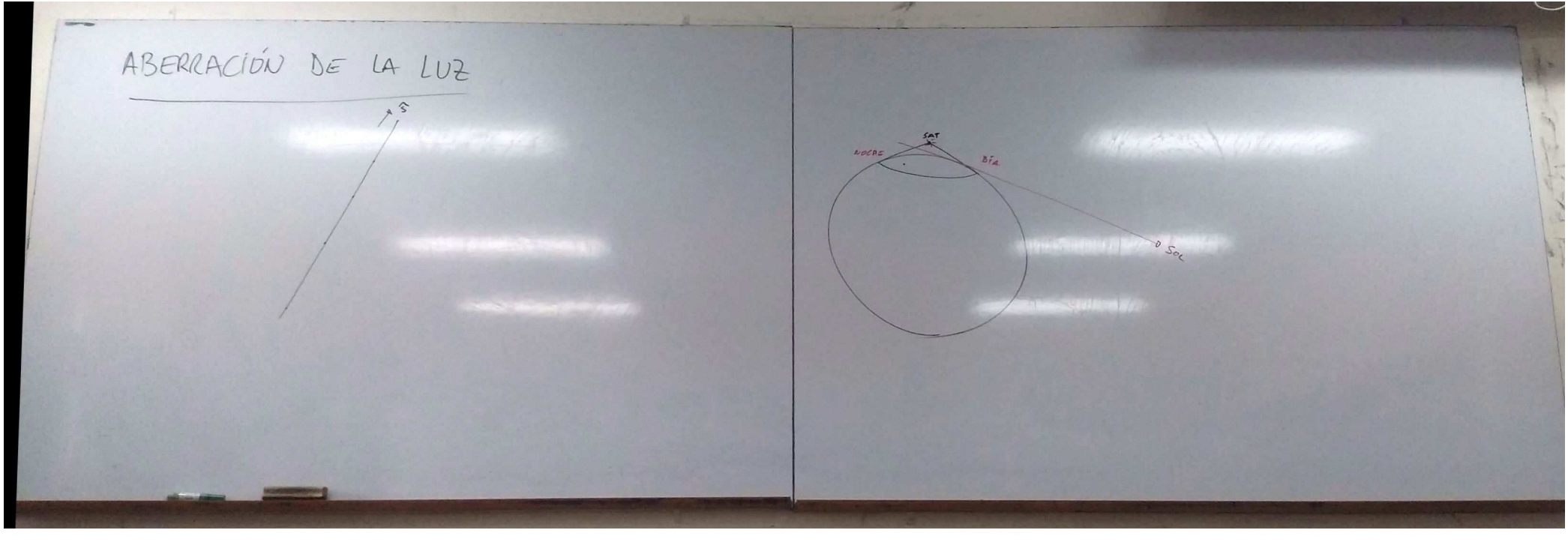
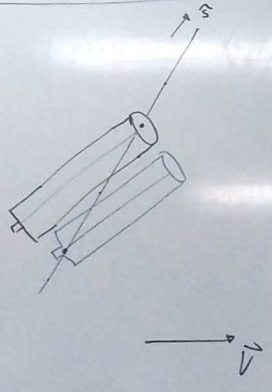
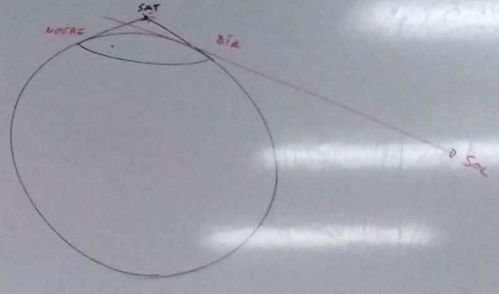





ABERRACIÓN DE LA LUZ
S
SAT
NOCHE
DÍA
SOL

ABERRACIÓN DE LA LUZ





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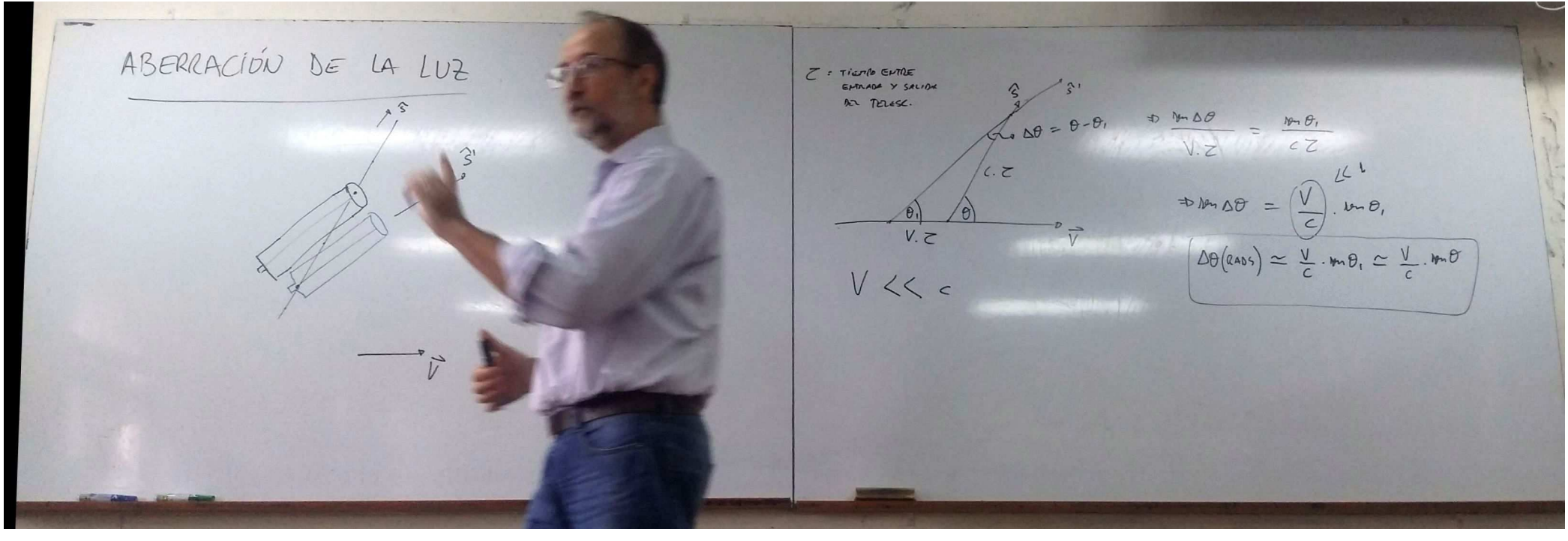
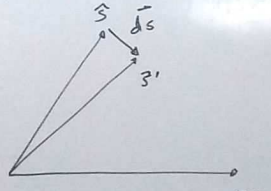
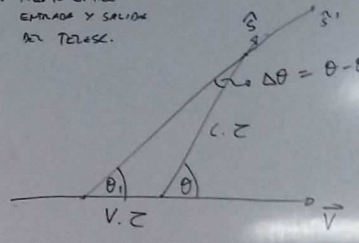


ABERRACIÓN DE LA LUZ



$\vec{ds} = \hat{s}' - \hat{s} =$

t = TIEMPO ENTRE ENTRADA Y SALIDA DEL TELESC.



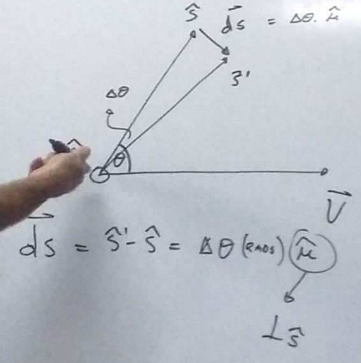
$V << c$

$\Rightarrow \frac{\sin \Delta\theta}{V \cdot t} = \frac{\sin \theta_1}{c \cdot t}$

$\Rightarrow \sin \Delta\theta = \frac{V}{c} \cdot \sin \theta_1$

$\Delta\theta(\text{RADS}) \simeq \frac{V}{c} \cdot \sin\theta_1 \simeq \frac{V}{c} \cdot \sin\theta$

ABERRACIÓN DE LA LUZ

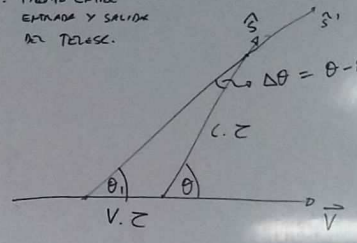


$$\hat{k} = \frac{\vec{V} \wedge \hat{s}}{V \cdot \operatorname{sen}\theta}$$

$$\vec{ds} = \hat{s}' - \hat{s} = \Delta\theta_{(RADS)}\,\hat{\mu}$$

$\hat{\mu} \perp \hat{s}$

t = TIEMPO ENTRE ENTRADA Y SALIDA DEL TELESC.

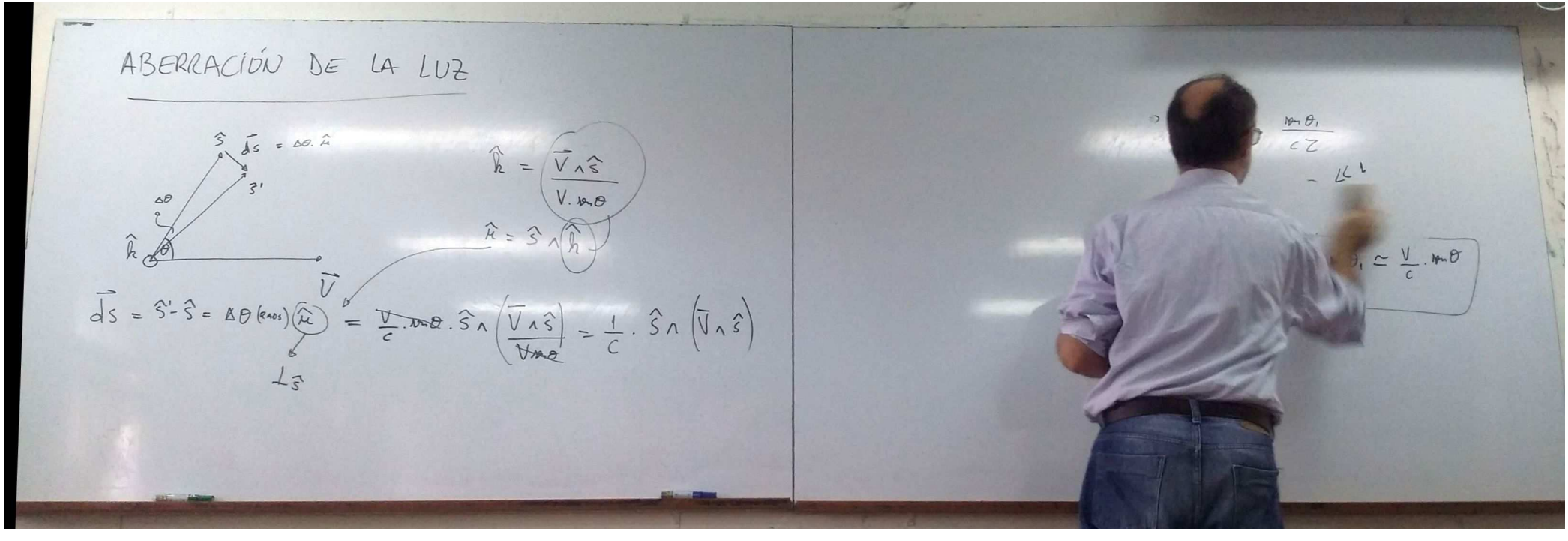


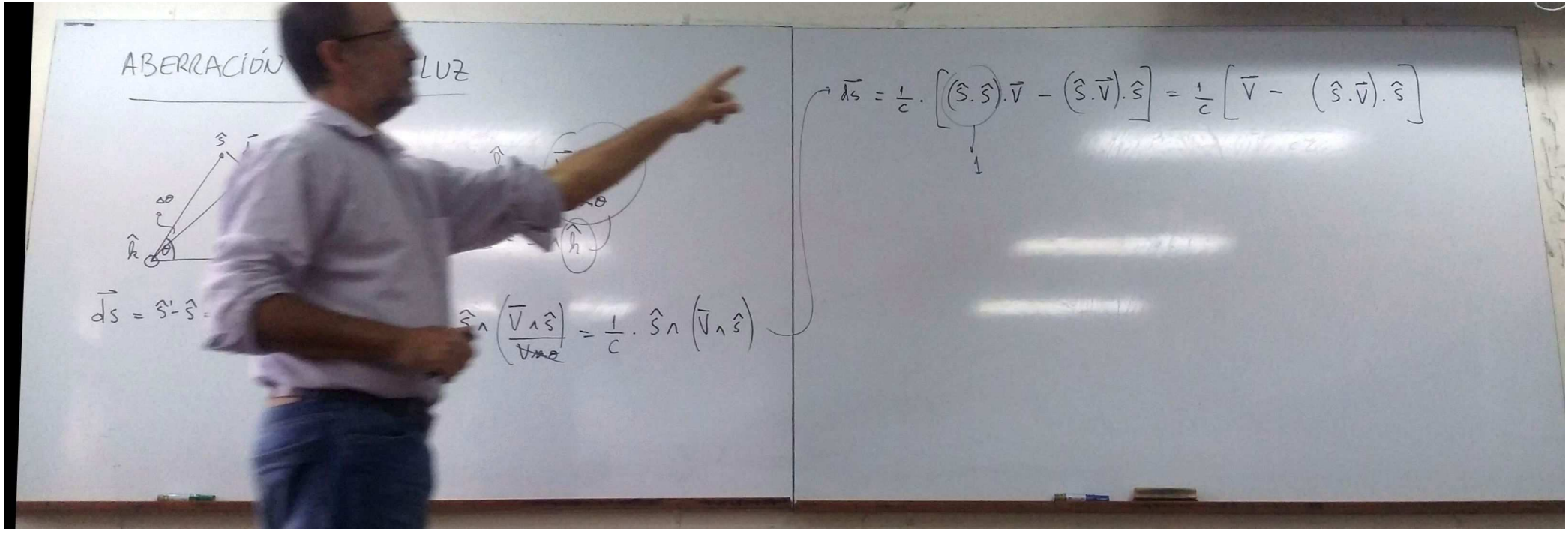
$$\Rightarrow \frac{\operatorname{sen}\Delta\theta}{V \cdot t} = \frac{\operatorname{sen}\theta_1}{c\,t}$$

$$\Rightarrow \operatorname{sen}\Delta\theta = \frac{V}{c} \cdot \operatorname{sen}\theta_1$$

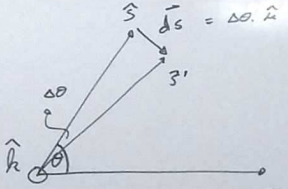
$$\Delta\theta_{(RADS)} \simeq \frac{V}{c} \cdot \operatorname{sen}\theta_1 \simeq \frac{V}{c} \cdot \operatorname{sen}\theta$$

$V << c$


ABERRACIÓN DE LA LUZ
$\vec{ds} = \Delta\theta \cdot \hat{\mu}$
$\hat{h} = \frac{\vec{V} \wedge \hat{s}}{V \cdot \sin\theta}$
$\hat{\mu} = \hat{s} \wedge \hat{h}$
$\vec{ds} = \hat{s}' - \hat{s} = \Delta\theta\,(\text{rads})\,\hat{\mu} = \frac{V}{c} \cdot \sin\theta \cdot \hat{s} \wedge \left(\frac{\vec{V} \wedge \hat{s}}{V \sin\theta}\right) = \frac{1}{c} \cdot \hat{s} \wedge \left(\vec{V} \wedge \hat{s}\right)$
$\perp \hat{s}$
$\theta_1 \simeq \frac{V}{c} \cdot \sin\theta$


ABERRACIÓN
LUZ
$\vec{ds} = \hat{s}' - \hat{s}$
$\hat{s} \wedge \left(\frac{\vec{V} \wedge \hat{s}}{V \sin\theta}\right) = \frac{1}{c} \cdot \hat{s} \wedge \left(\vec{V} \wedge \hat{s}\right)$
$\vec{ds} = \frac{1}{c} \cdot \left[(\hat{s}.\hat{s}).\vec{V} - (\hat{s}.\vec{V}).\hat{s}\right] = \frac{1}{c}\left[\vec{V} - (\hat{s}.\vec{V}).\hat{s}\right]$
1

ABERRACIÓN DE LA LUZ



$$\hat{h} = \frac{\vec{V} \wedge \hat{s}}{V \cdot \operatorname{sen}\theta}$$

$$\hat{\mu} = \hat{s} \wedge \hat{h}$$

$$\vec{ds} = \hat{s}' - \hat{s} = \Delta\theta\,(\text{rads})\,\hat{\mu} = \frac{V}{c} \cdot \operatorname{sen}\theta \cdot \hat{s} \wedge \left(\frac{\vec{V} \wedge \hat{s}}{V \operatorname{sen}\theta}\right) = \frac{1}{c} \cdot \hat{s} \wedge \left(\vec{V} \wedge \hat{s}\right)$$

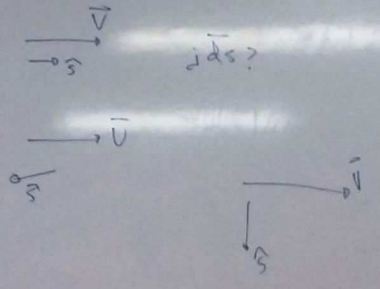
$\hat{\mu} \perp \hat{s}$

$$\vec{ds} = \frac{1}{c} \cdot \left[(\hat{s} \cdot \hat{s}) \cdot \vec{V} - (\hat{s} \cdot \vec{V}) \cdot \hat{s}\right] = \frac{1}{c}\left[\vec{V} - (\hat{s} \cdot \vec{V}) \cdot \hat{s}\right]$$

$(\hat{s} \cdot \hat{s}) = 1$

$\vec{V}$ mov. real obs.

$(\hat{s} \cdot \vec{V})$ mov. fuente



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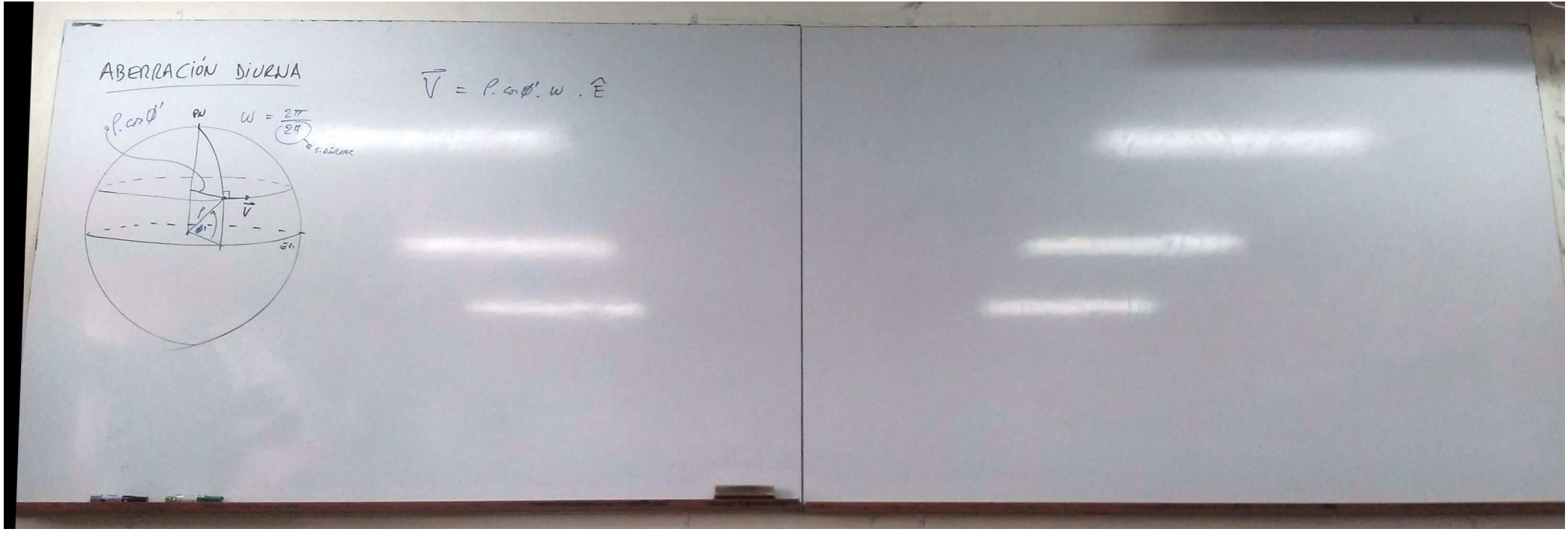
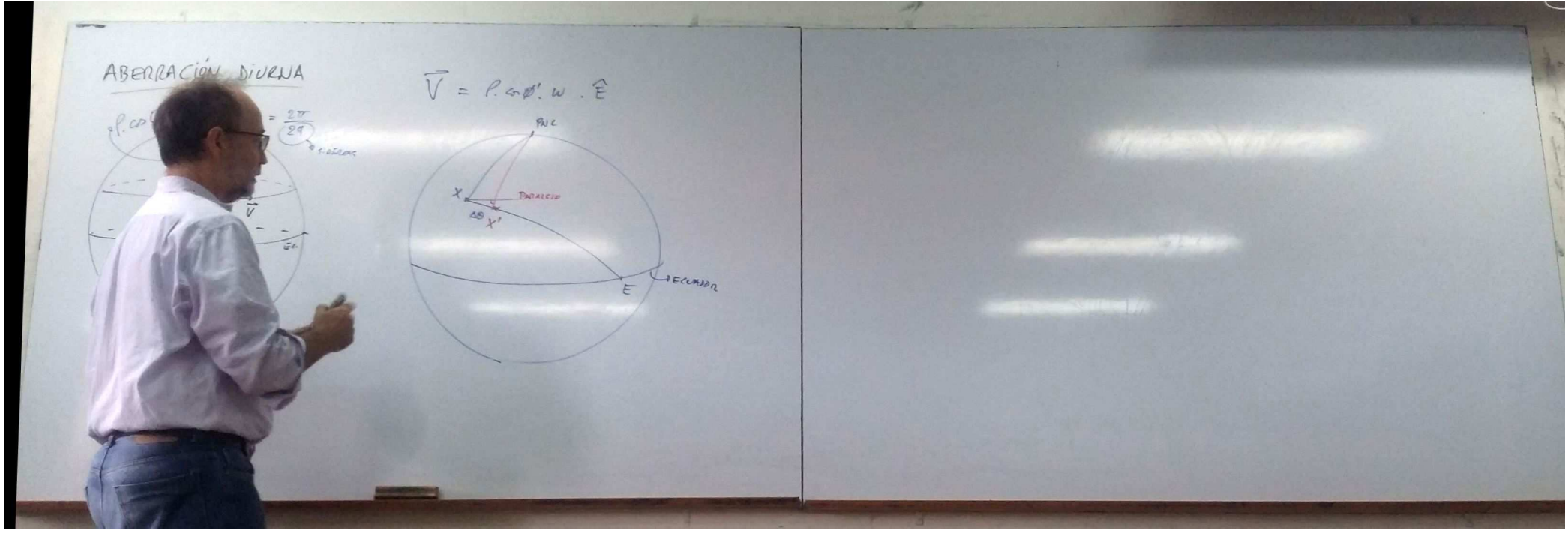
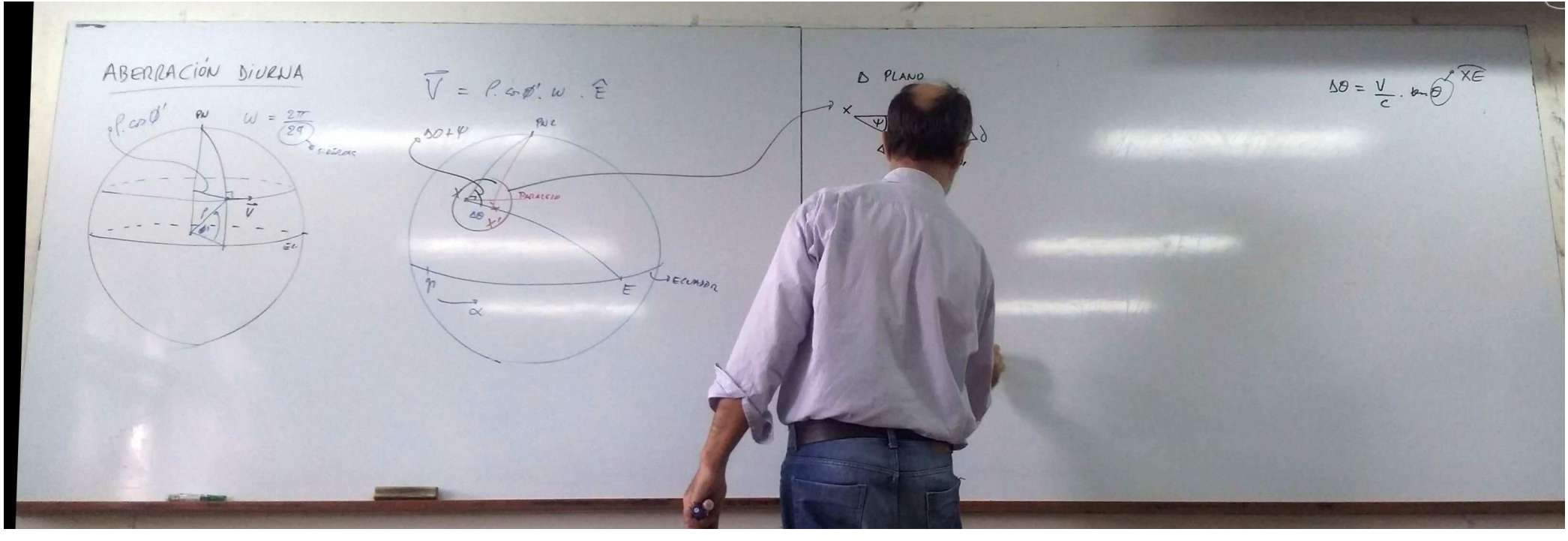
Astronomia Fundamental 2018 - clase 9



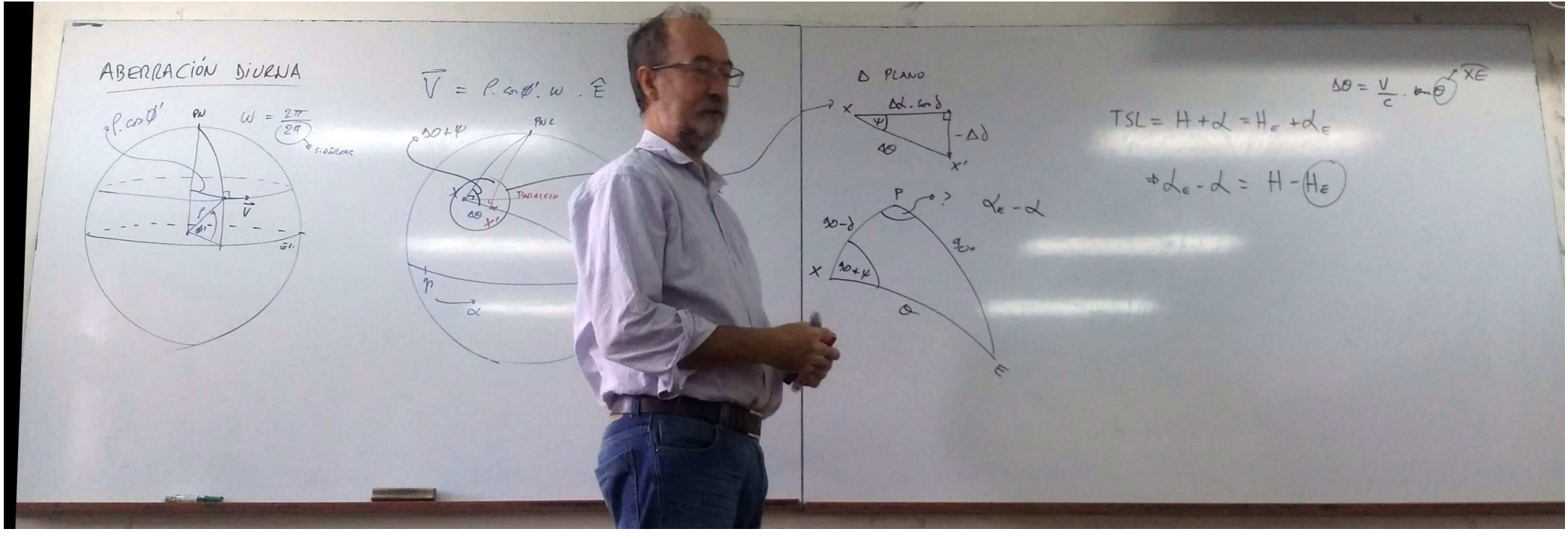
Astronomia Fundamental 2018 - clase 9



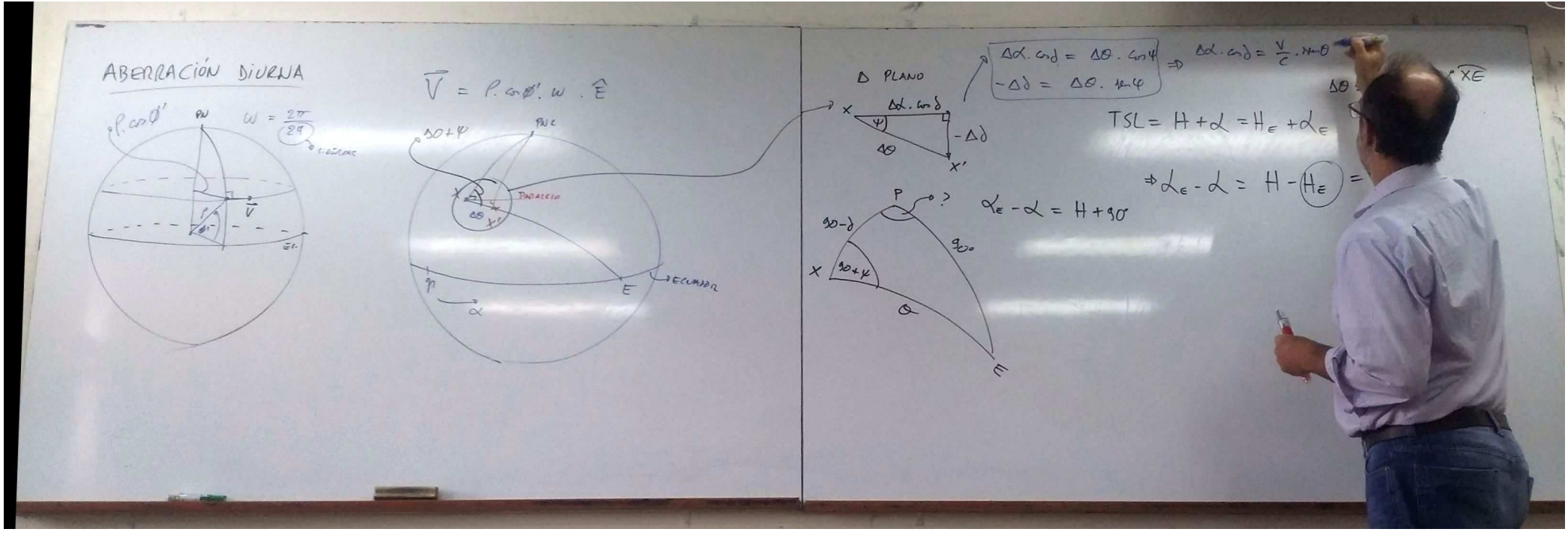
Astronomia Fundamental 2018 - clase 9



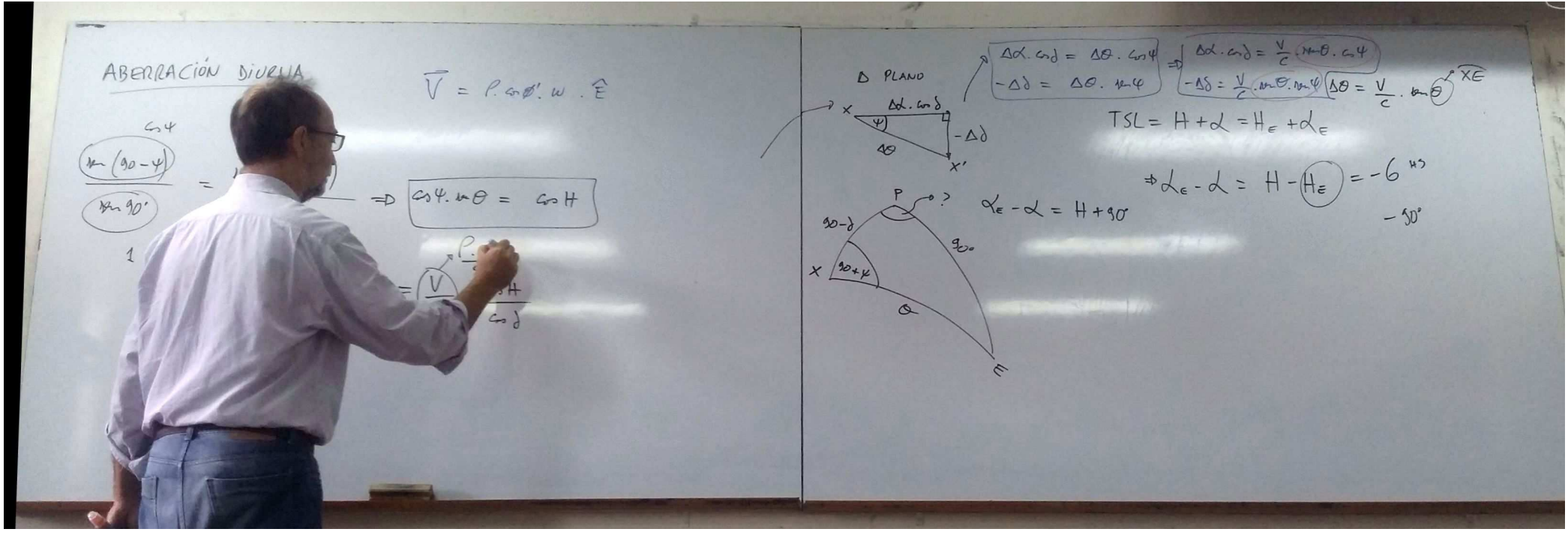
Astronomia Fundamental 2018 - clase 9



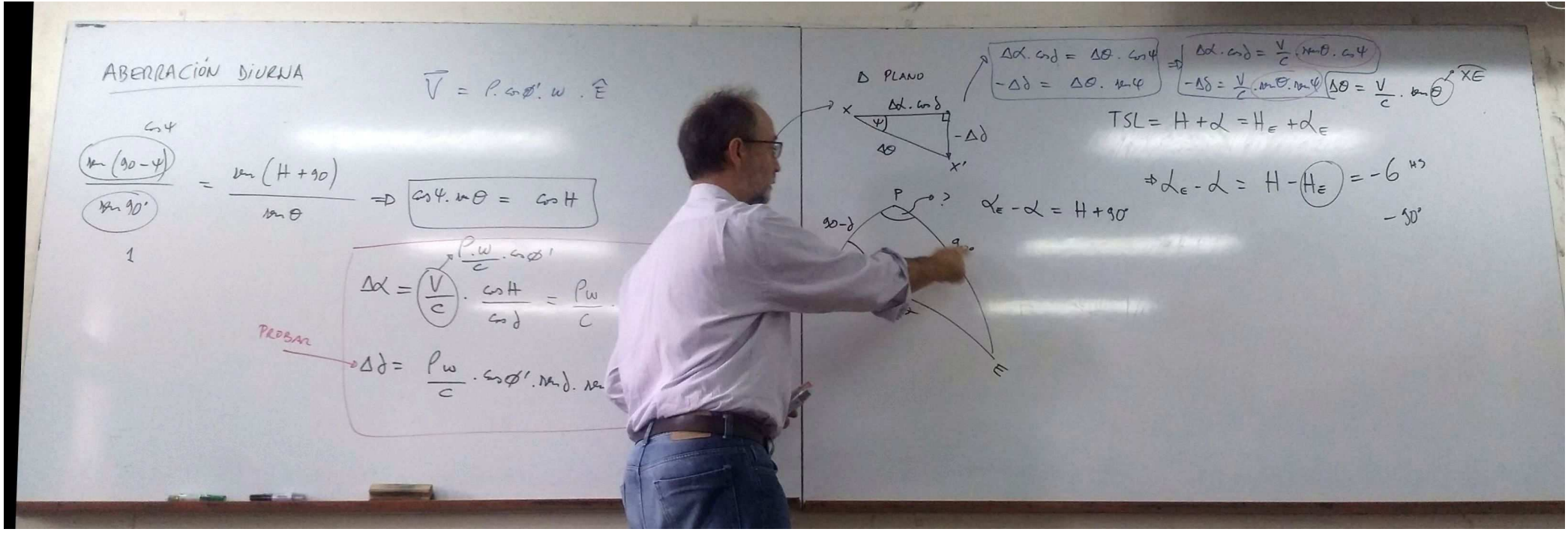
Astronomia Fundamental 2018 - clase 9

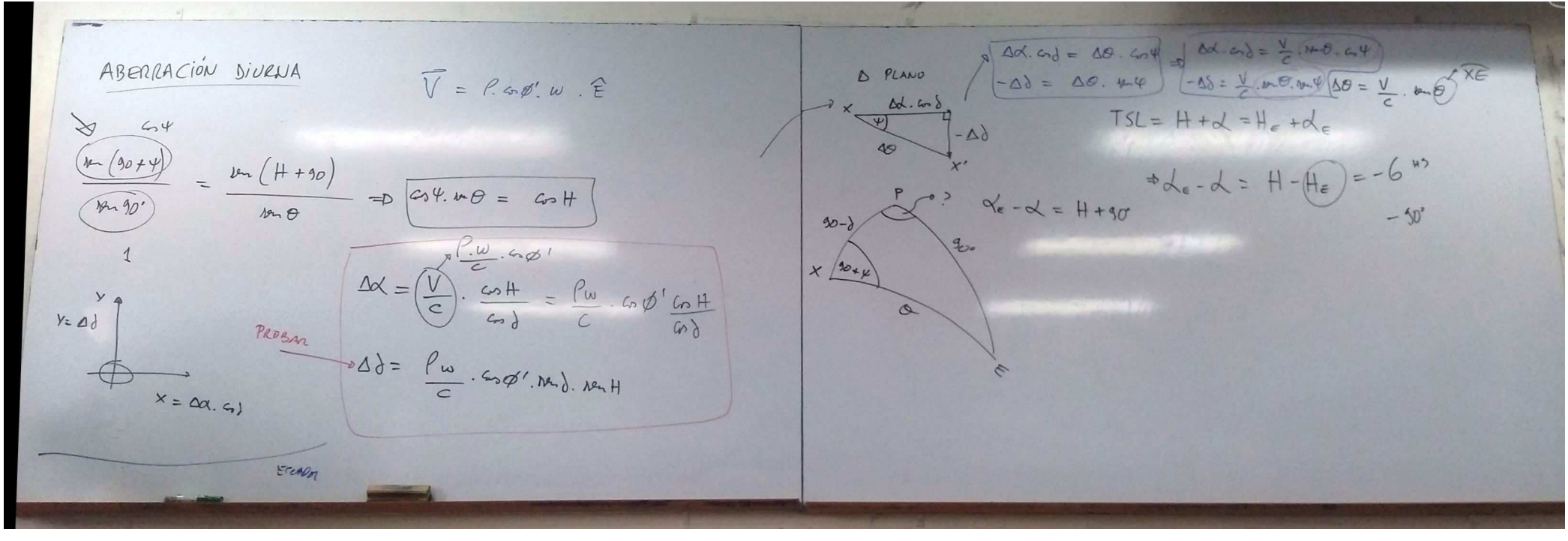


Astronomia Fundamental 2018 - clase 9



Astronomia Fundamental 2018 - clase 9



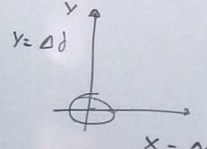

ABERRACIÓN DIURNA
$\vec{V} = \rho \cdot \cos\phi' \cdot \omega \cdot \hat{E}$
$\frac{\cos\psi}{\frac{\sin(90+\psi)}{\sin 90^\circ}} = \frac{\sin(H+90)}{\sin\theta} \Rightarrow \cos\psi \cdot \sin\theta = \cos H$
1
$\Delta\alpha = \frac{V}{c} \cdot \frac{\cos H}{\cos\delta} = \frac{\rho\omega}{c} \cdot \cos\phi' \frac{\cos H}{\cos\delta}$
$\frac{\rho \cdot \omega}{c} \cdot \cos\phi'$
PROBAR
$\Delta\delta = \frac{\rho\omega}{c} \cdot \cos\phi' \cdot \sin\delta \cdot \sin H$
Y
$Y = \Delta\delta$
$X = \Delta\alpha \cdot \cos\delta$
ECUADOR
Δ PLANO
$\Delta\alpha \cdot \cos\delta$
$-\Delta\delta$
$\Delta\theta$
$\Delta\alpha \cdot \cos\delta = \Delta\theta \cdot \cos\psi$
$-\Delta\delta = \Delta\theta \cdot \sin\psi$
$\Rightarrow \Delta\alpha \cdot \cos\delta = \frac{V}{c} \cdot \sin\theta \cdot \cos\psi$
$-\Delta\delta = \frac{V}{c} \cdot \sin\theta \cdot \sin\psi$
$\Delta\theta = \frac{V}{c} \cdot \sin\theta$
XE
$TSL = H + \alpha = H_\epsilon + \alpha_\epsilon$
$\Rightarrow \alpha_\epsilon - \alpha = H - H_\epsilon = -6^{hs}$
-90°
P
$\alpha_\epsilon - \alpha = H + 90$
$90-\delta$
90°
$90+\psi$
θ
E

ABERRACIÓN DIURNA

$$\vec{V} = P \cdot \cos\phi' \cdot w \cdot \hat{E}$$

$$\frac{\cos\psi}{\frac{\sin(90+\psi)}{\sin 90^\circ}} = \frac{\sin(H+90)}{\sin\theta} \Rightarrow \cos\psi \cdot \sin\theta = \cos H$$

1



PROBAR

$$\Delta\alpha = \frac{V}{c} \cdot \frac{\cos H}{\cos\delta} = \frac{P w}{c} \cdot \cos\phi' \frac{\cos H}{\cos\delta} \qquad \left(\frac{V}{c} = \frac{P \cdot w}{c} \cdot \cos\phi'\right)$$

$$\Delta\delta = \frac{P w}{c} \cdot \cos\phi' \cdot \sin\delta \cdot \sin H$$

ECUADOR

$$\begin{cases} \Delta\alpha \cdot \cos\delta = \Delta\theta \cdot \cos\psi \\ -\Delta\delta = \Delta\theta \cdot \sin\psi \end{cases} \Rightarrow \begin{cases} \Delta\alpha \cdot \cos\delta = \frac{V}{c} \sin\theta \cdot \cos\psi \\ -\Delta\delta = \frac{V}{c} \sin\theta \cdot \sin\psi \end{cases} \quad \Delta\theta = \frac{V}{c} \cdot \sin\theta$$

XE

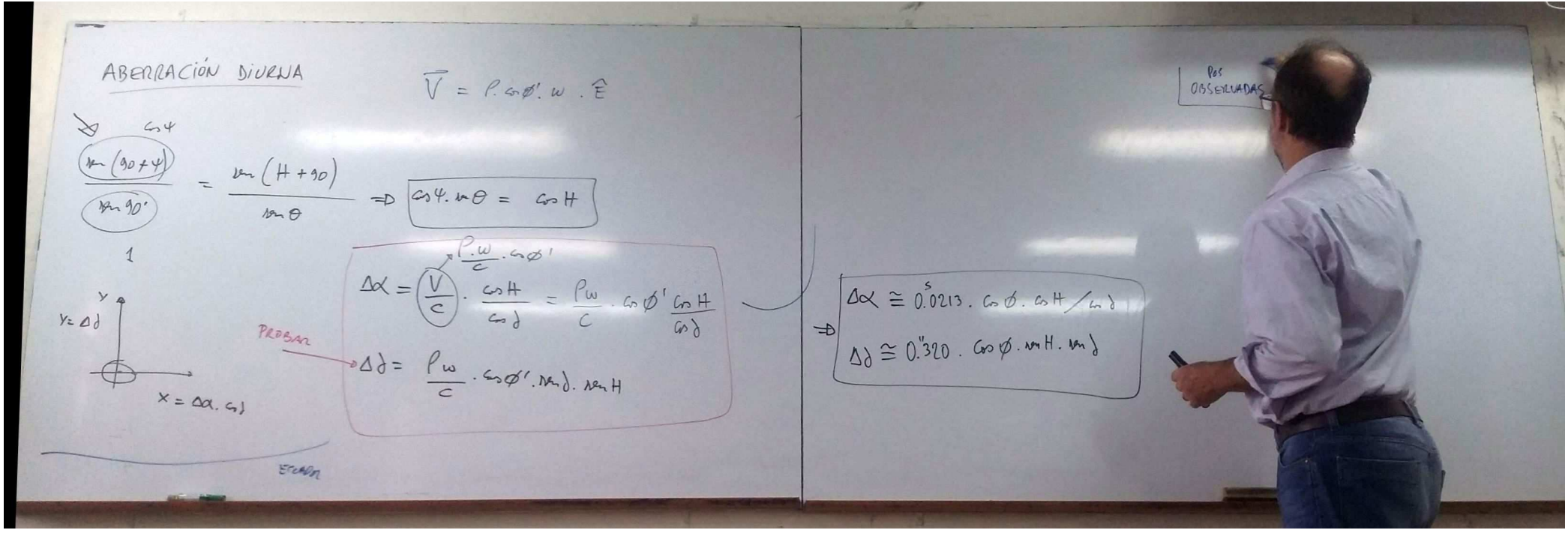
$$X = \Delta\alpha \cdot \cos\delta = \frac{P w}{c} \cos\phi' \cdot \cos H$$

$-1, +1$

$$TSL = H + \alpha = H_\epsilon + \alpha_\epsilon$$

$$\Rightarrow \alpha_\epsilon - \alpha = H - H_\epsilon = -6^{hs}$$

-90°


ABERRACIÓN DIURNA
$\vec{V} = P \cos\phi' \cdot w \cdot \hat{E}$
$\frac{\sin(90+\psi)}{\sin 90^\circ} = \frac{\sin(H+90)}{\sin\theta} \Rightarrow \cos\psi \cdot \sin\theta = \cos H$
1
$\Delta\alpha = \frac{V}{c} \cdot \frac{\cos H}{\cos\delta} = \frac{P\omega}{c} \cdot \cos\phi' \frac{\cos H}{\cos\delta}$
$\frac{P\omega}{c} \cdot \cos\phi'$
PROBAR
$\Delta\delta = \frac{P\omega}{c} \cdot \cos\phi' \cdot \sin\delta \cdot \sin H$
Y
$Y = \Delta\delta$
$X = \Delta\alpha \cdot \cos\delta$
ECUADOR
$\Rightarrow \Delta\alpha \cong 0^s.0213 \cdot \cos\phi \cdot \cos H / \cos\delta$
$\Delta\delta \cong 0''.320 \cdot \cos\phi \cdot \sin H \cdot \sin\delta$
Pos OBS EXCLUIDAS

Astronomia Fundamental 2018 - clase 9