

Astronomia de Posição
2º semestre - 2022

Aula_9 – 28/09/2022

Sistemas de Coordenadas

Gaia/ESA/DPAC

Ramachrisna Teixeira
IAG-USP
rama.teixeira@iag.usp.br

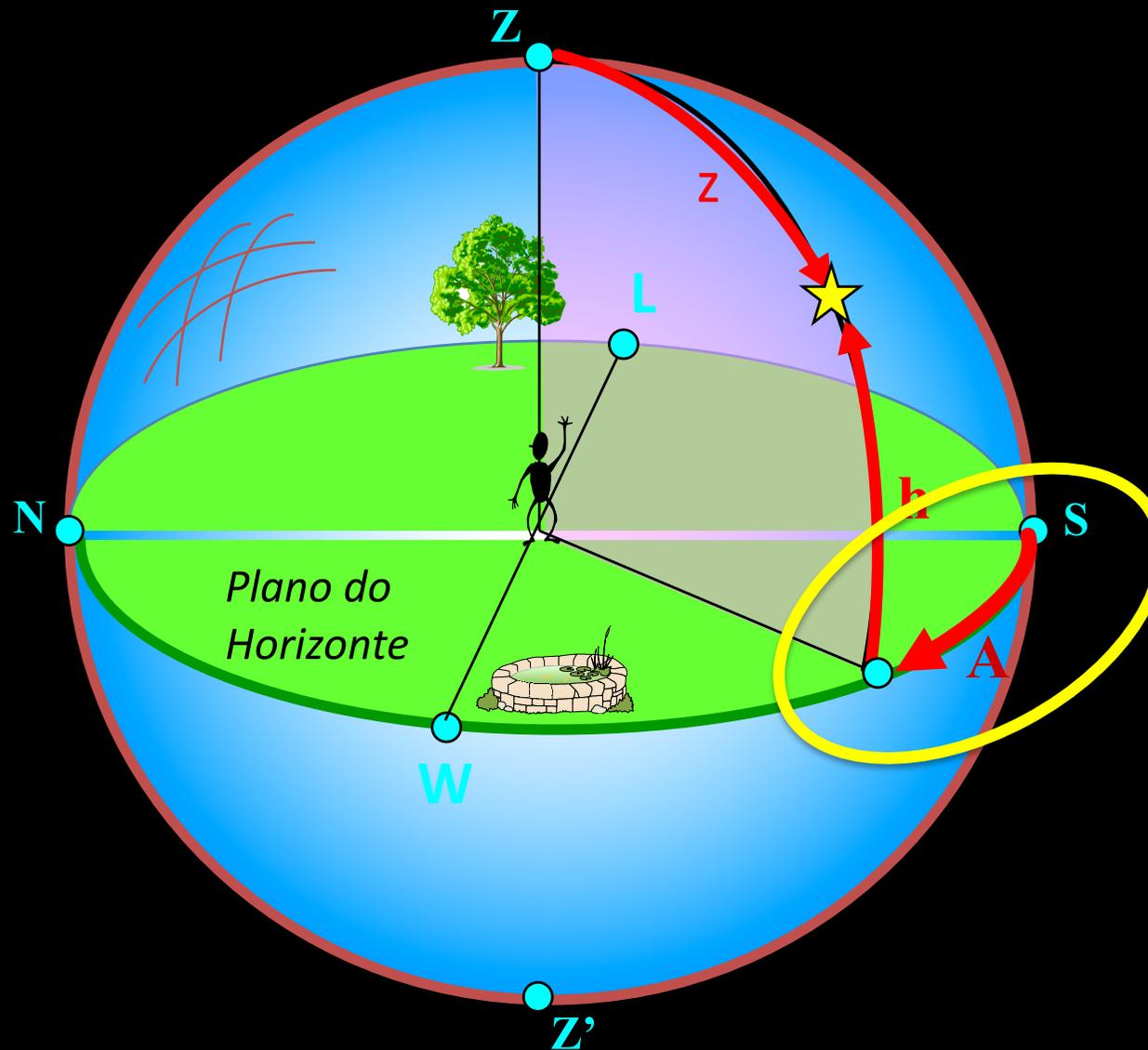
sistema de coordenadas horizontal

$h = \text{altura}$
 $-90^\circ \leq h \leq 90^\circ$

$A = \text{azimute}$
 $0^\circ \leq A \leq 360^\circ$

$z = \text{dist\~{a}ncia zenital}$
 $0^\circ \leq z \leq 180^\circ$

$$h + z = 90^\circ$$



sistema de coordenadas equatorial horário

$\delta = \text{declinação}$
 $-90^\circ \leq \delta \leq 90^\circ$

$H = \text{ângulo horário}$
 $0^h \leq H \leq 24^h$
 $-12^h \leq H \leq 12^h$

$0^\circ \leq H \leq 360^\circ$
 $-180^\circ \leq H \leq 180^\circ$

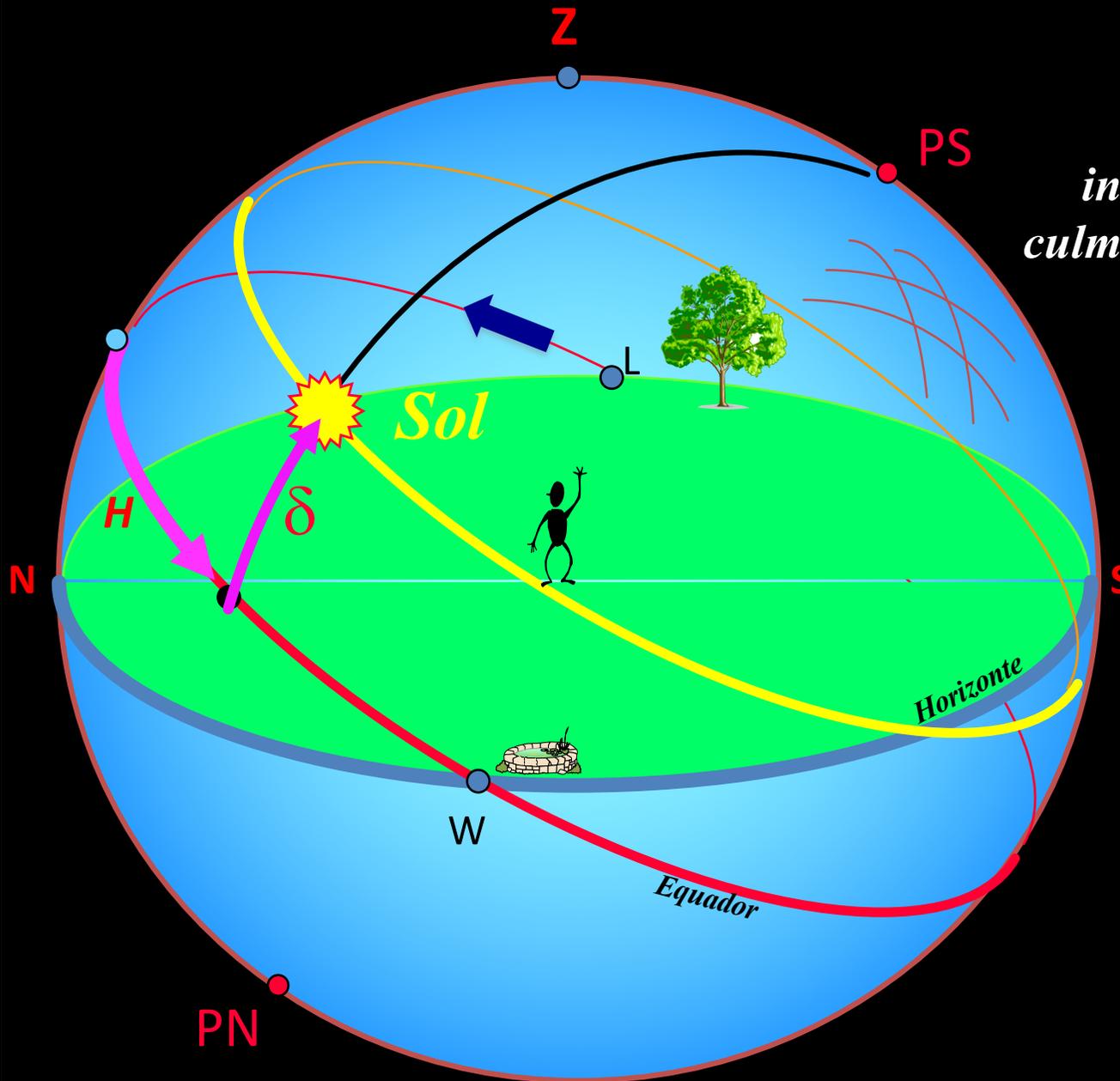
$p = \text{distância polar}$
 $0^\circ \leq p \leq 180^\circ$

$$p + \delta = 90^\circ$$



Tempo Solar

$$T_{sol} = H_{sol} + 12h$$



Dia solar

*intervalo de tempo entre duas
culminações superiores (inferiores)
consecutivas do Sol.*



1d solar = 24h solares

1h solar = 60min. solares

1min. solar = 60s solares

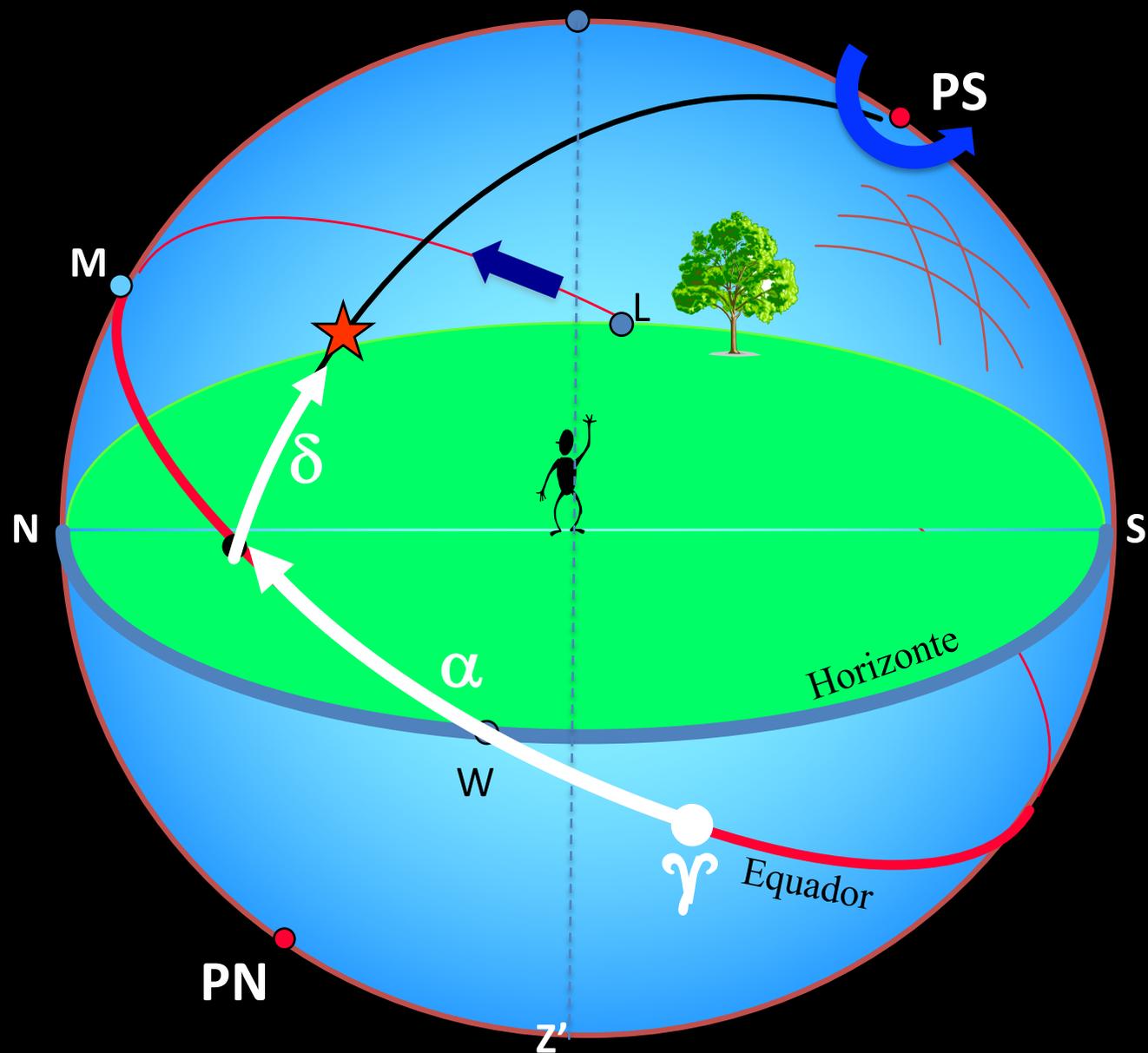
sistema de coordenadas equatorial equinoocial

$\delta = \text{declinação}$

$-90^\circ \leq \delta \leq 90^\circ$

$\alpha = \text{ascensão reta}$

$0^h \leq \alpha \leq 24^h$



Tempo Sideral

$$TS = H_{\gamma} = \alpha_{\star} + H_{\star}$$

Dia sideral

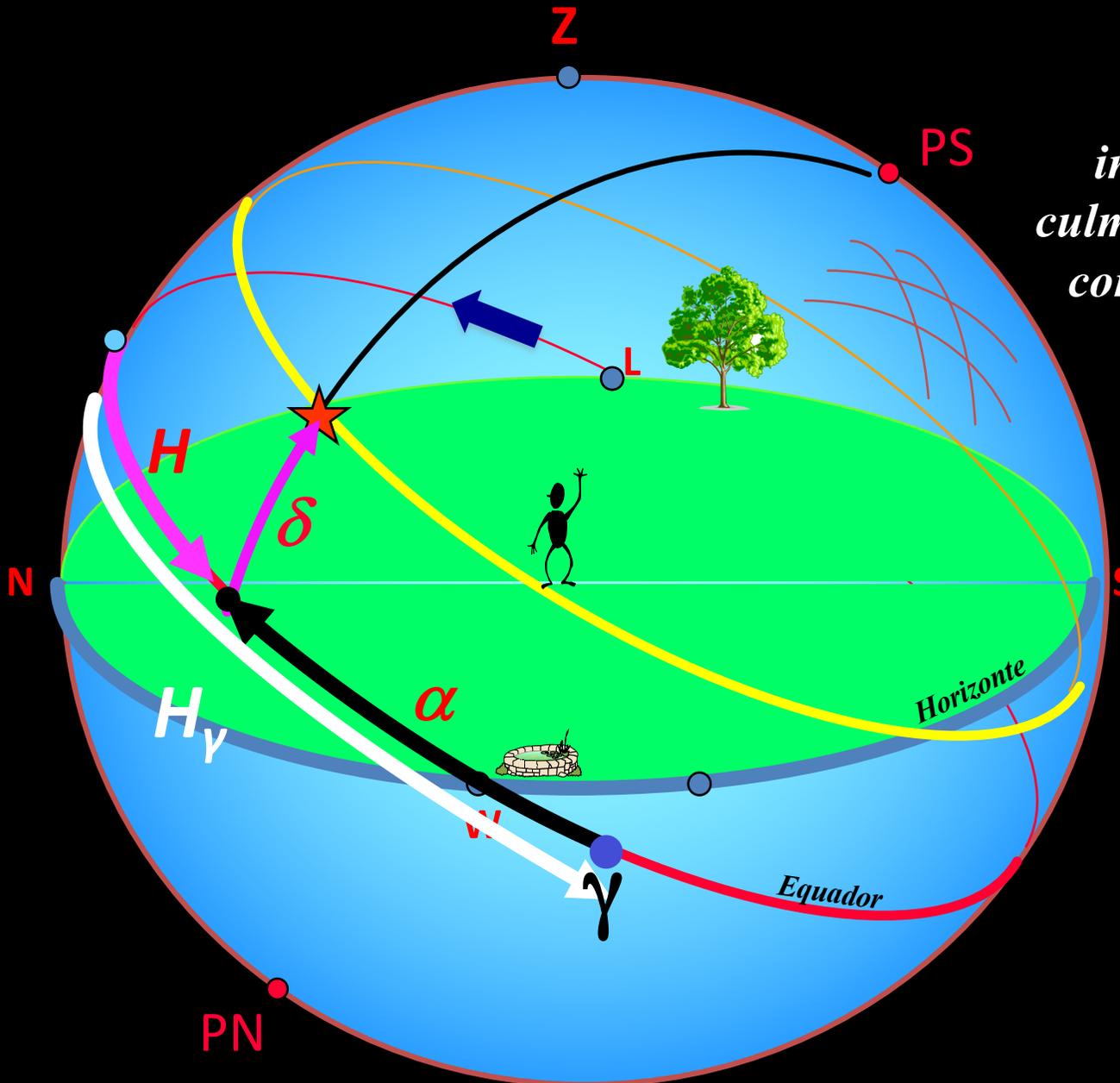
intervalo de tempo entre duas culminações superiores (inferiores) consecutivas do ponto vernal (γ).



1d sideral = 24h siderais

1h sideral = 60min. siderais

1min. sideral = 60s siderais

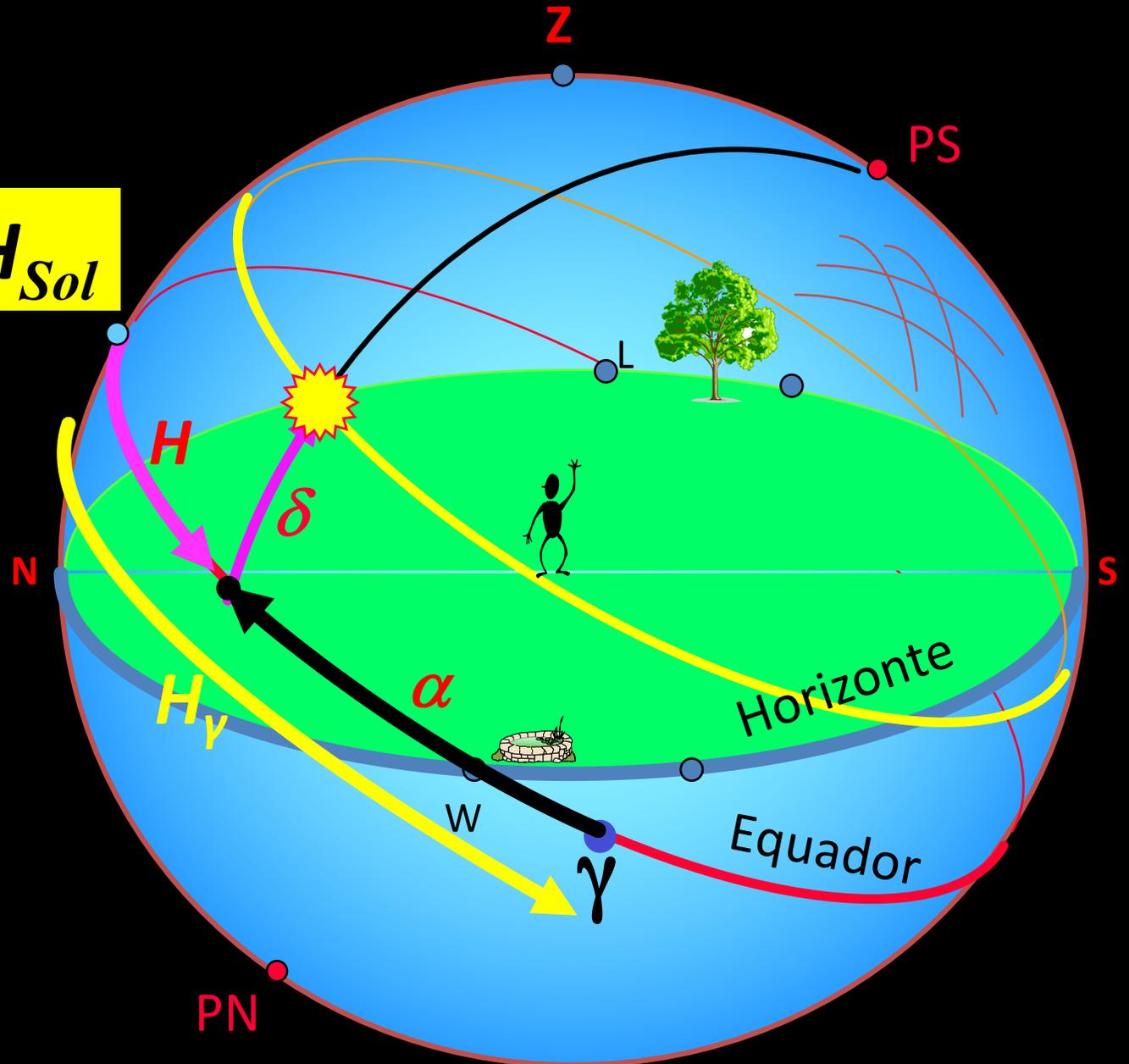


Solar/Sideral

$$TS = H_{\gamma} = \alpha_{\star} + H_{\star}$$



$$TS = H_{\gamma} = \alpha_{Sol} + H_{Sol}$$



F I M