Astronomia de Posição
2º semestre - 2022

Aula_10 – 05/10/2022

Sistemas de Coordenadas

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Gaia/ESA/DPAC

sistema de coordenadas horizontal

h = altura

$-90^o \leq h \leq 90^o$

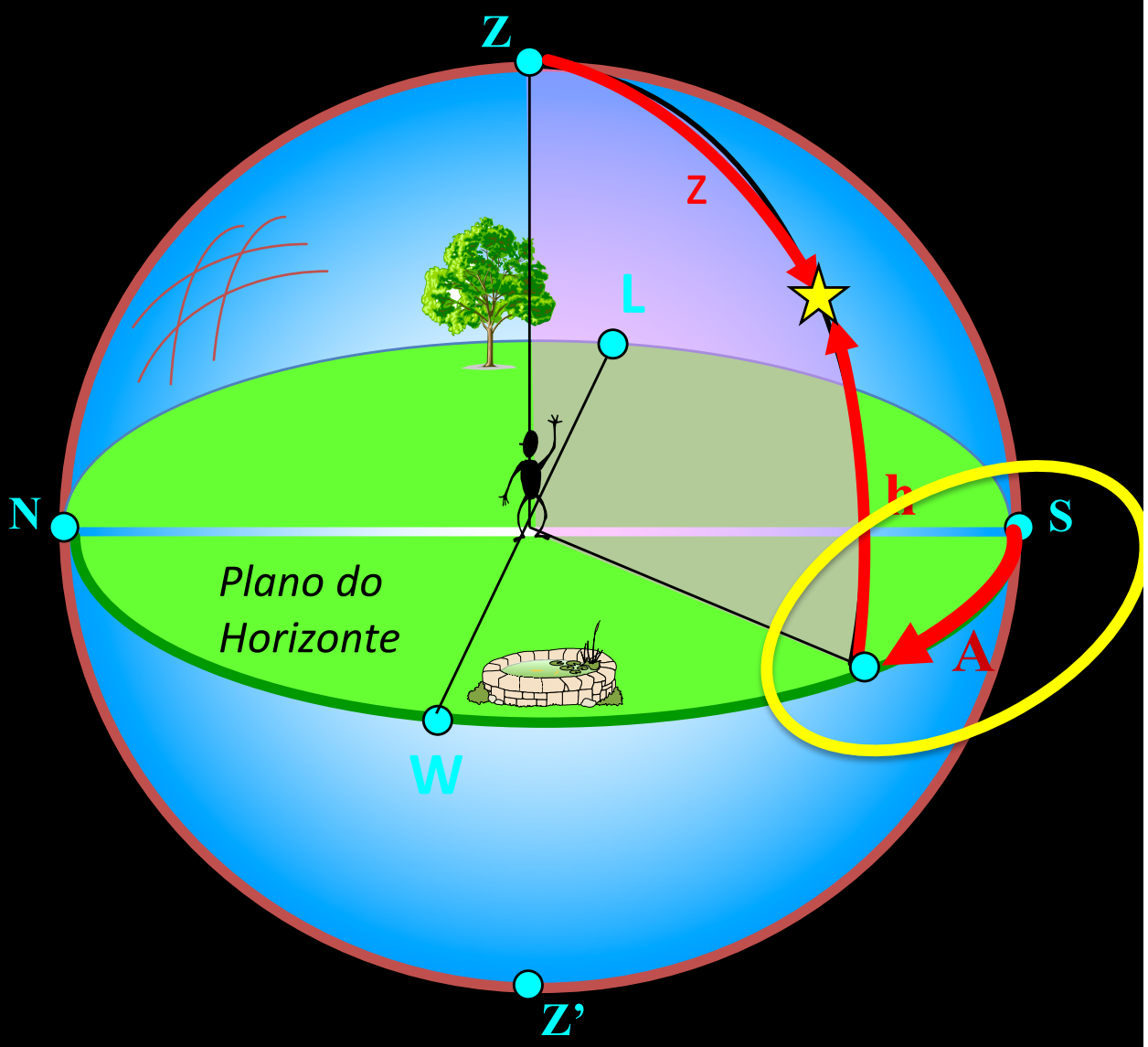
A = azimute

$0^o \leq A \leq 360^o$

z = distância zenital

$0^o \leq z \leq 180^o$

$h + z = 90^\circ$



Adaptado de R. Boczko

sistema de coordenadas equatorial horário

δ = declinação

$-90^o \leq \delta \leq 90^o$

H = ângulo horário

$0^h \leq H \leq 24^h$

$-12^h \leq H \leq 12^h$

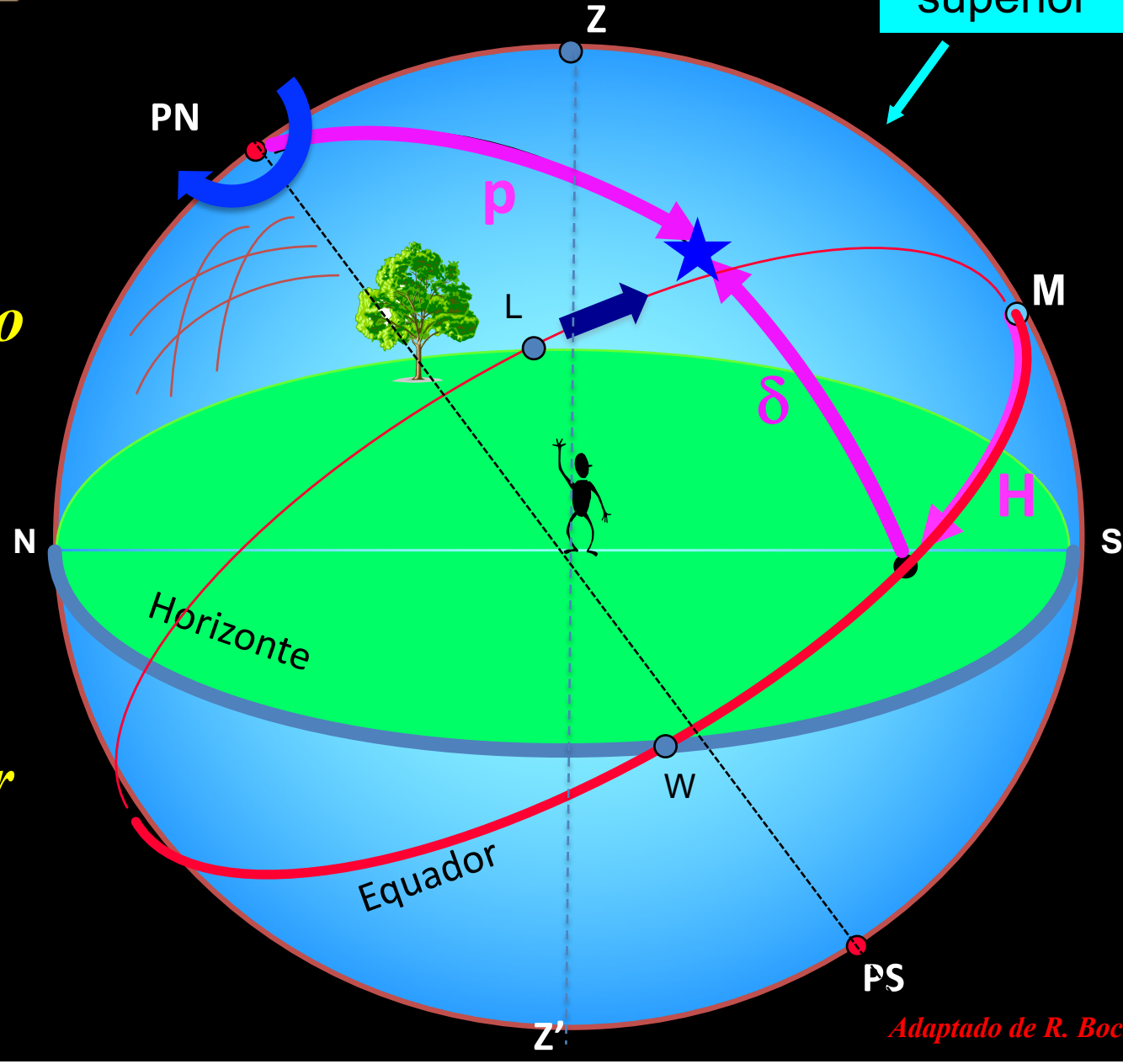
$0^o \leq H \leq 360^o$

$-180^o \leq H \leq 180^o$

p = distância polar

$0^o \leq p \leq 180^o$

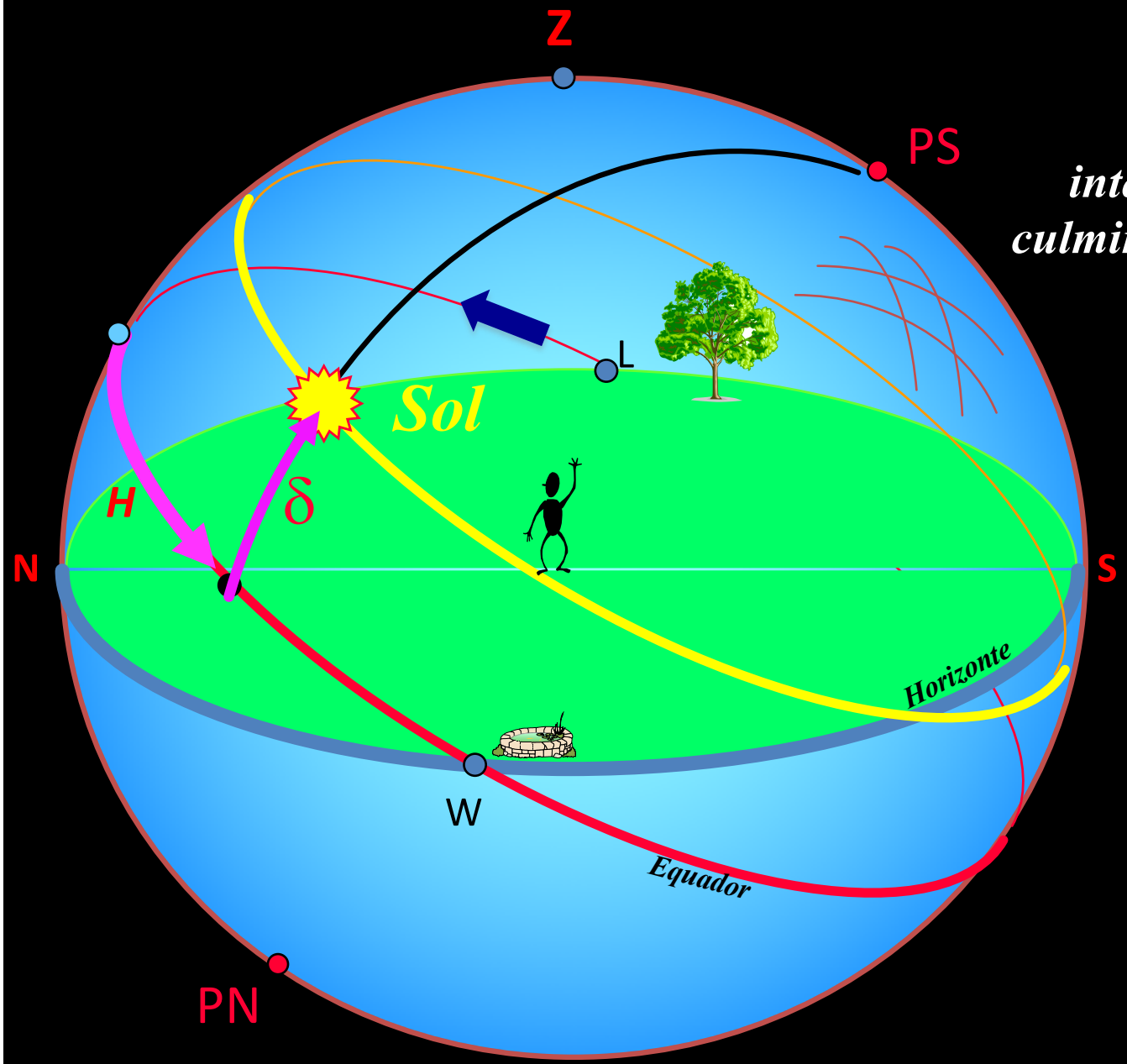
$p + \delta = 90^o$



Adaptado de R. Boczko

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

Adaptado de R. Boczko

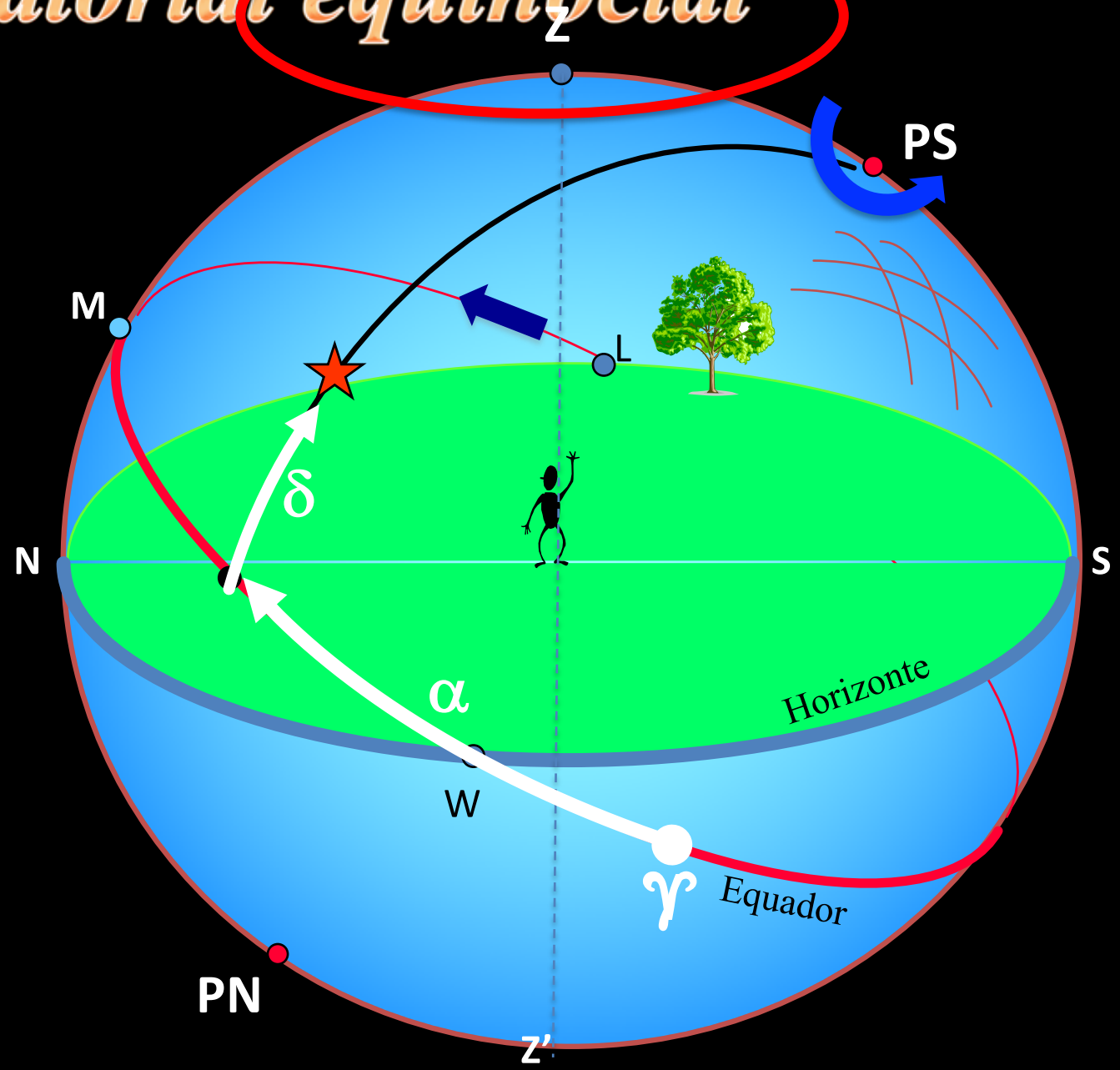
sistema de coordenadas equatorial equinocial

δ = declinação

$-90^o \leq \delta \leq 90^o$

α = ascensão reta

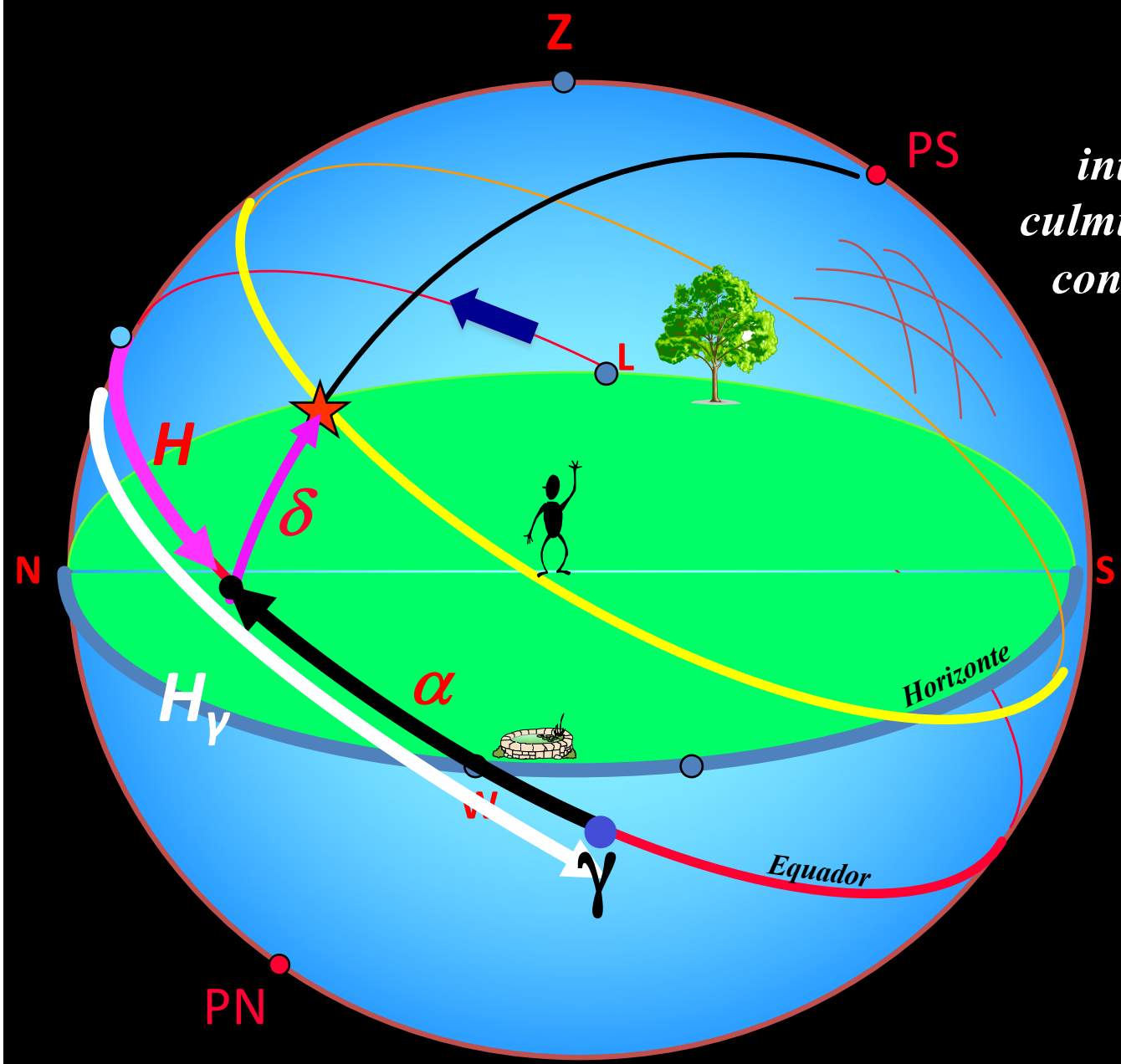
$0^h \leq \alpha \leq 24^h$



Adaptado de R. Boczko

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 sidereal = 24h siderais

1h sidereal = 60min. siderais

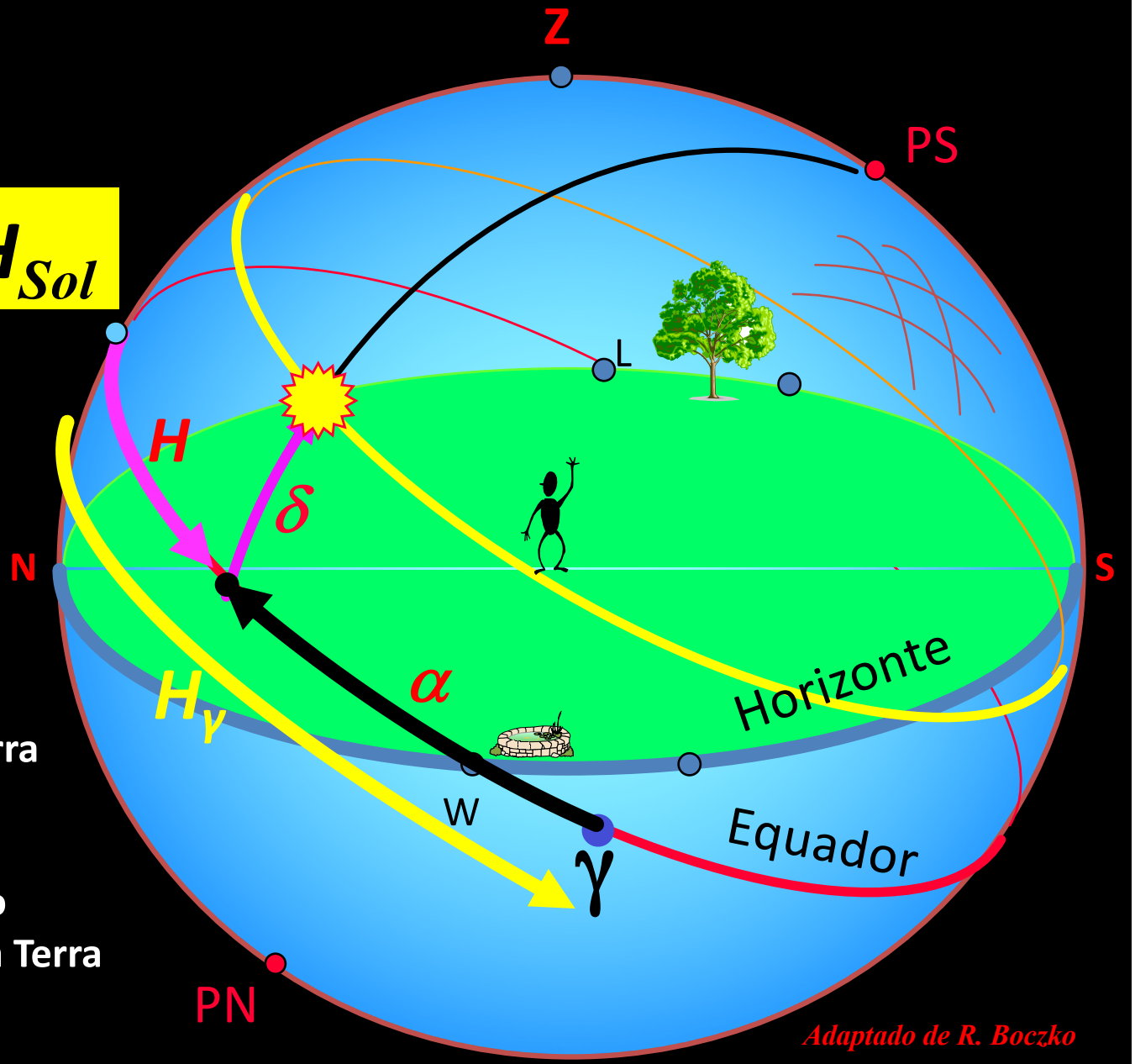
1min. sidereal = 60s siderais

Adaptado de R. Boczko

Solar/Sideral

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

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



Sideral:

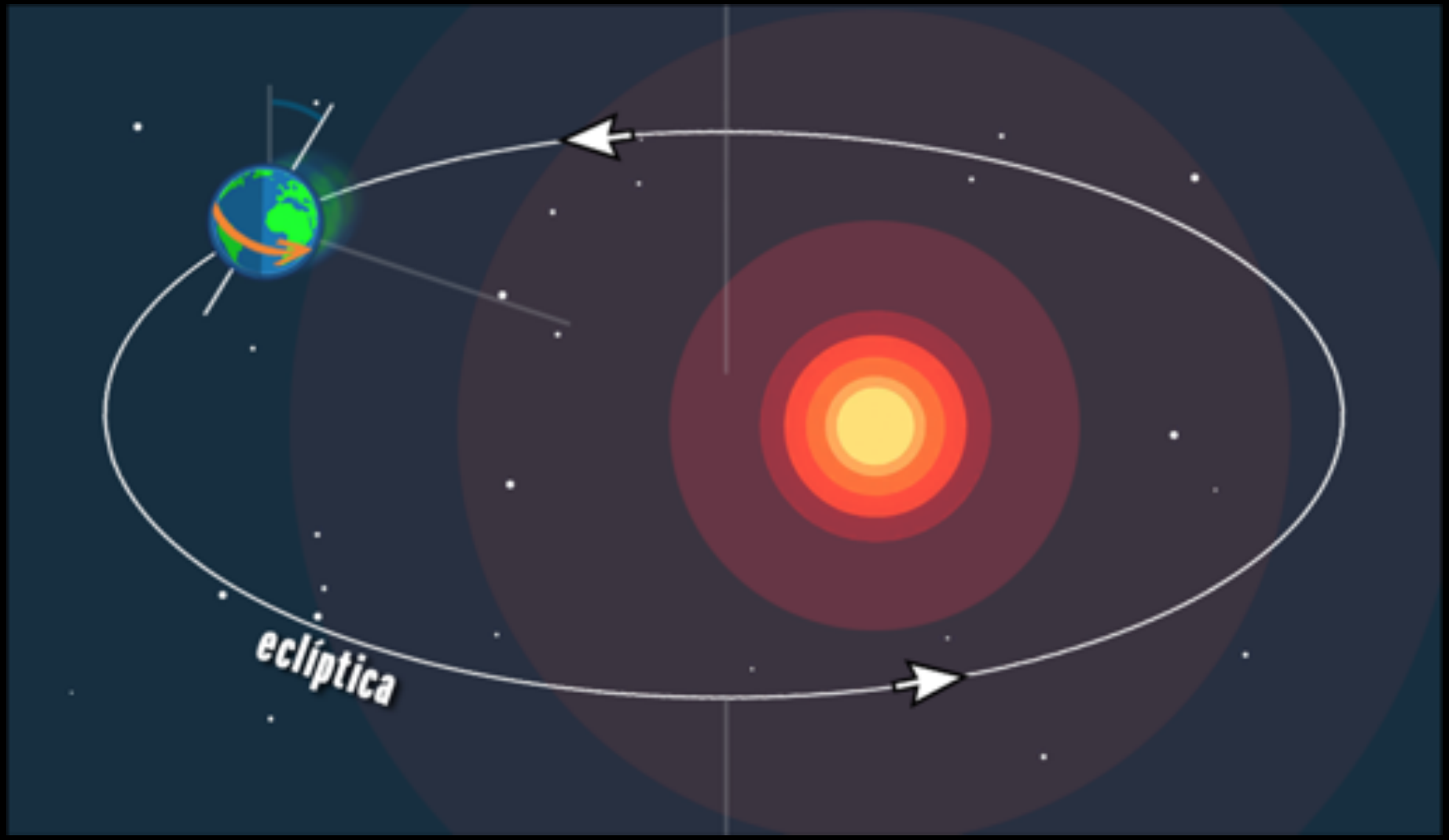
movimento de rotação da Terra

Solar:

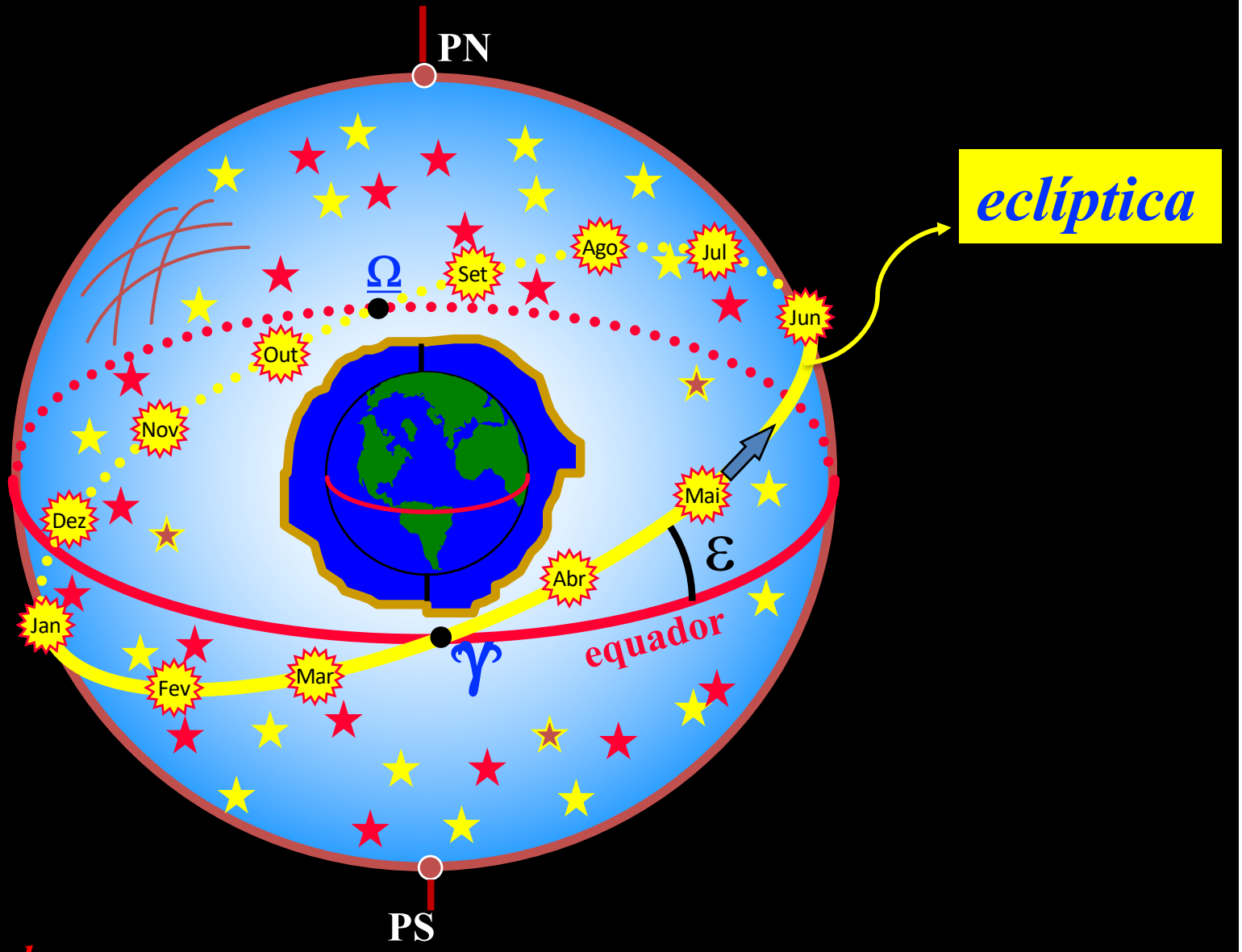
Superposição dos movimento
de rotação e de translação da Terra

Adaptado de R. Boczko

Eclíptica



Eclíptica

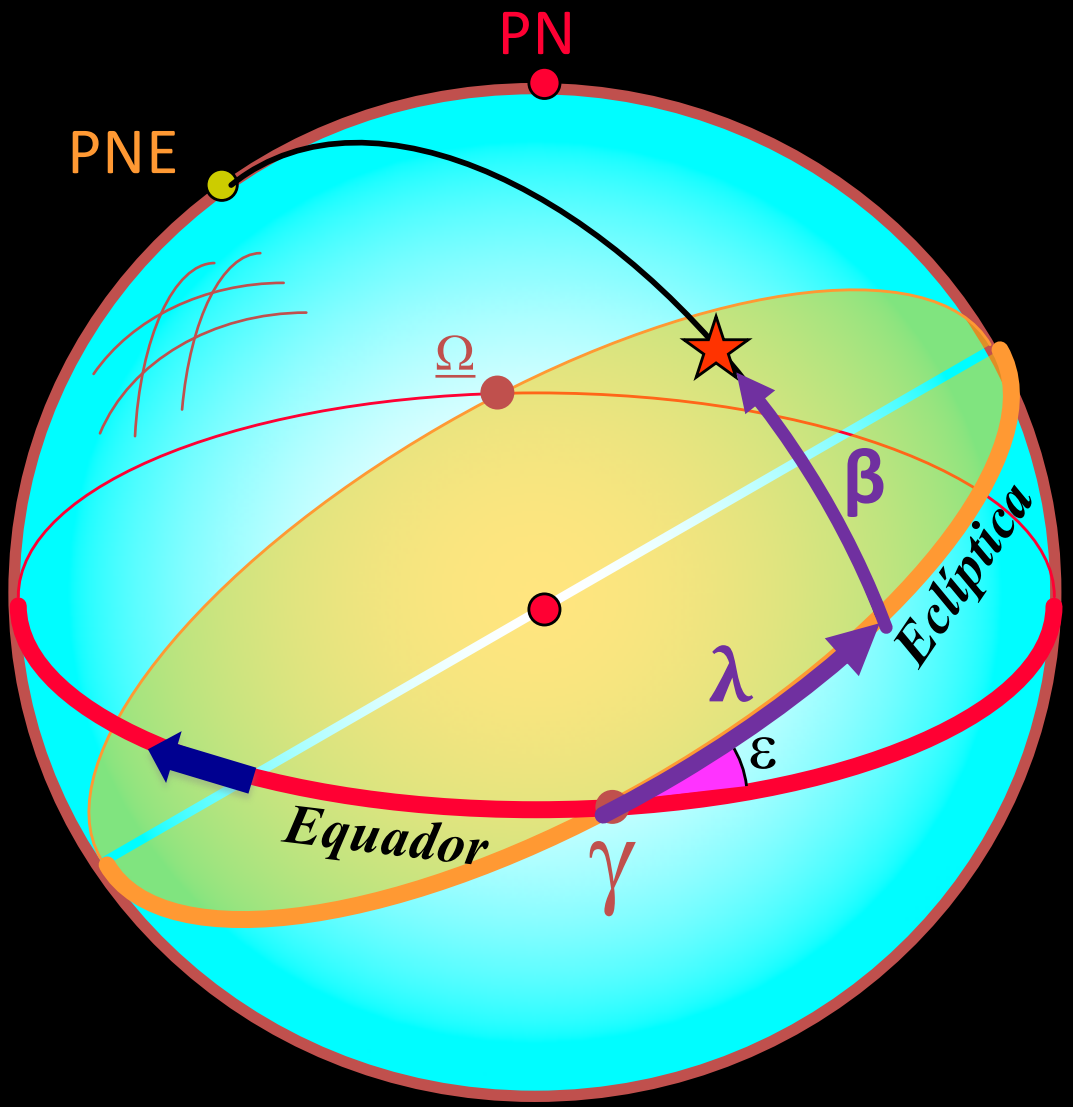


Adaptado de R. Boczko

sistema de coordenadas eclíptico

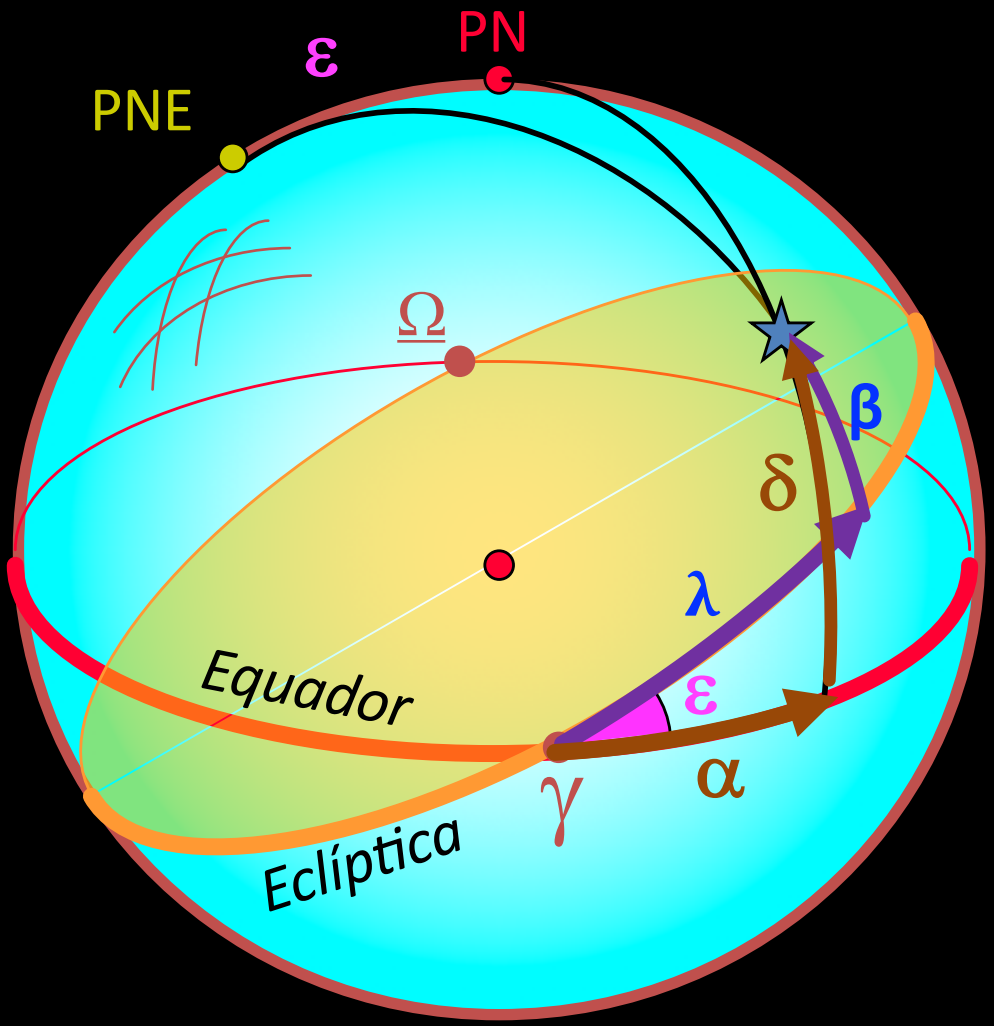
β = latitude eclíptica
$-90^o \leq \beta \leq 90^o$

λ = longitude eclíptica
$0^o \leq \lambda \leq 360^o$



Adaptado de R. Boczko

Sistema de coordenadas equatorial e eclíptico



$0^0 \leq \lambda < 360^0$

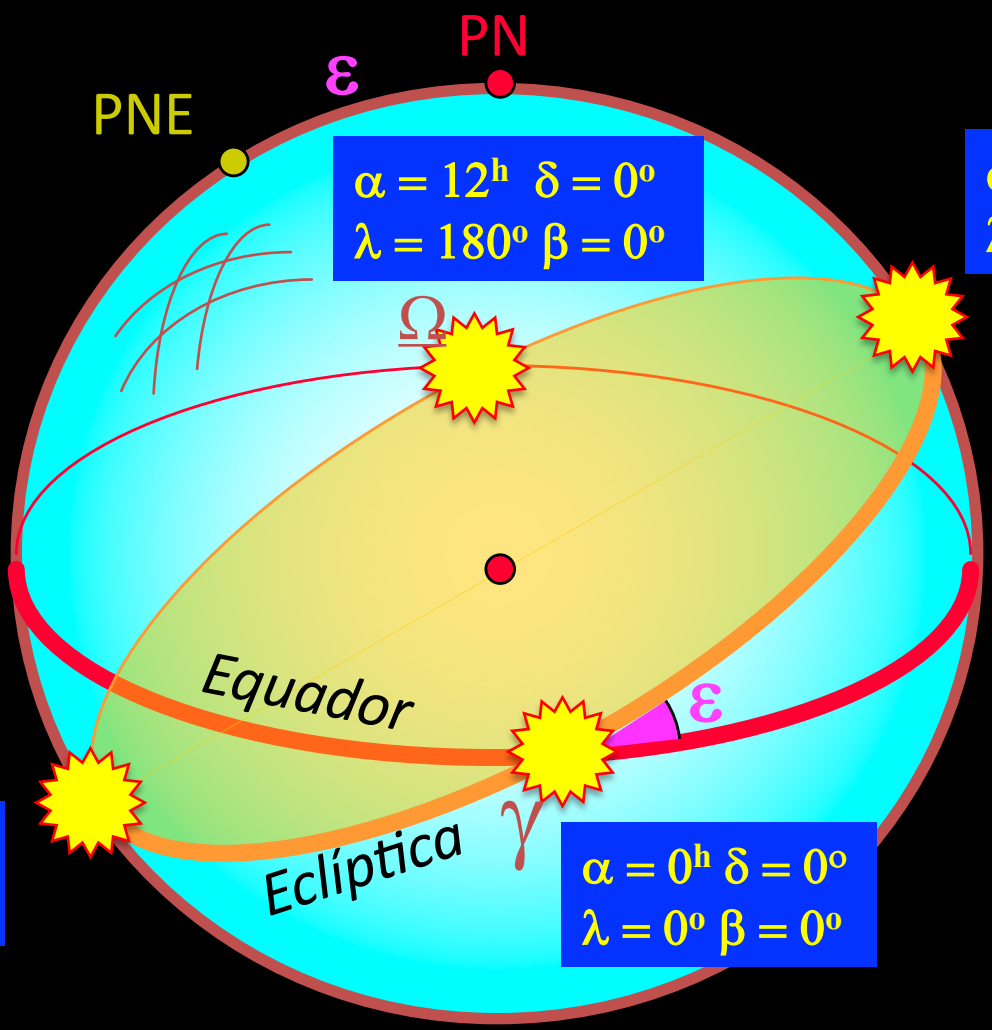
$-90^0 \leq \beta \leq +90^0$

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

$-90^0 \leq \delta \leq +90^0$

Adaptado de R. Boczko

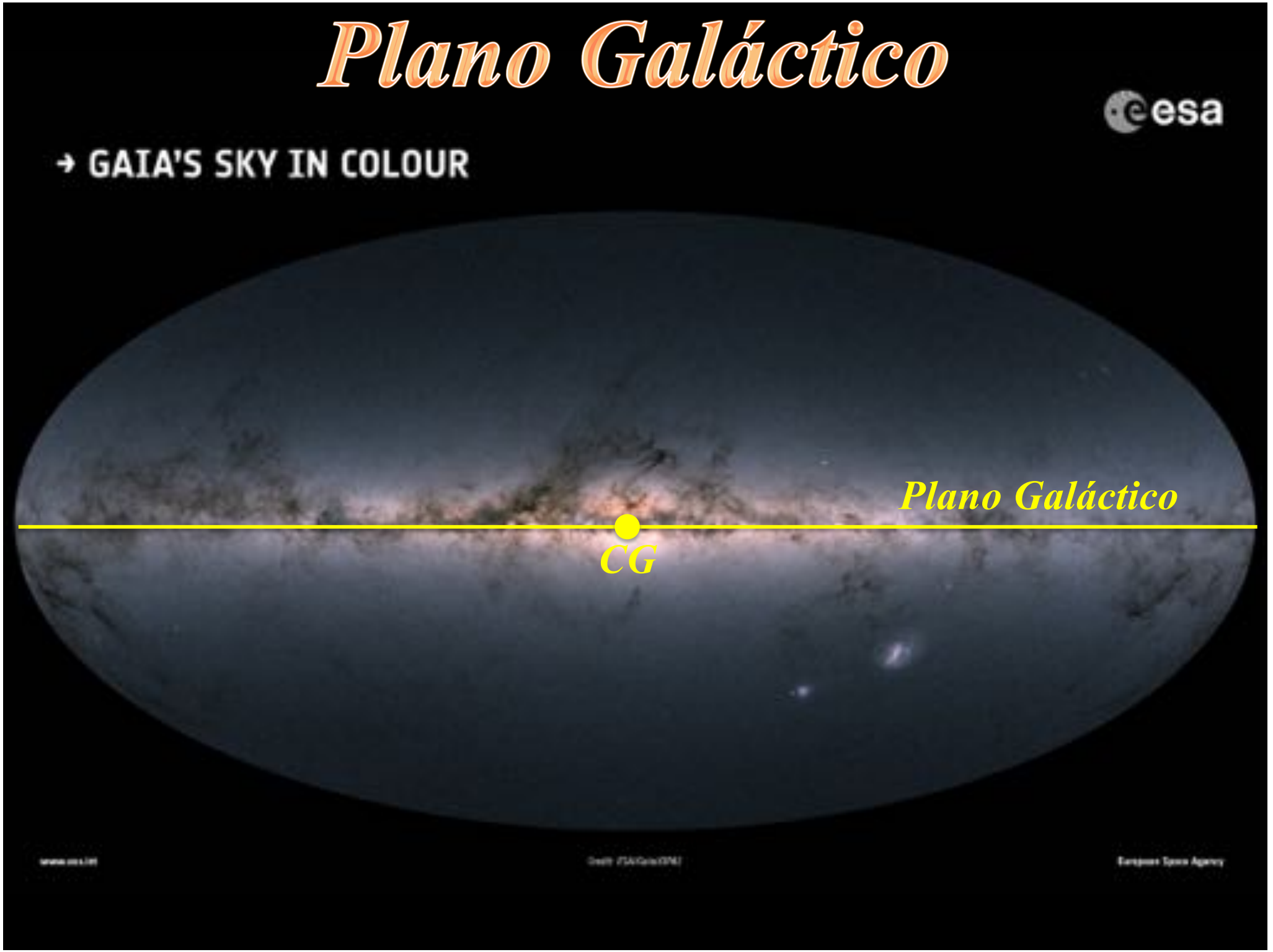
Coordenadas equatoriais e eclípticas do Sol



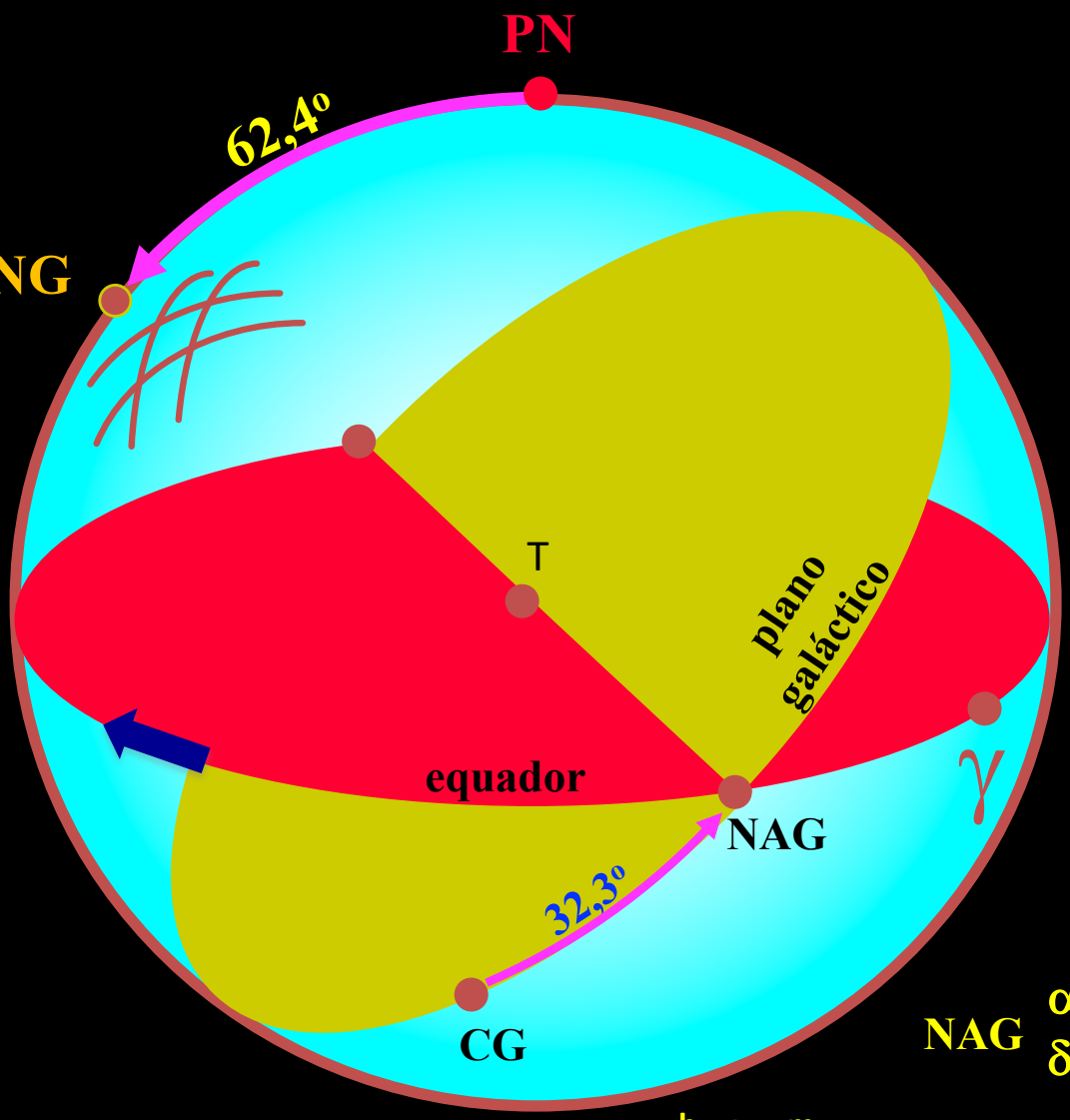
Adaptado de R. Boczko

Plano galáctico

Plano Galáctico



posição do plano galáctico



PNG $\alpha = 12^h49^m$
$\delta = 27,6^o$

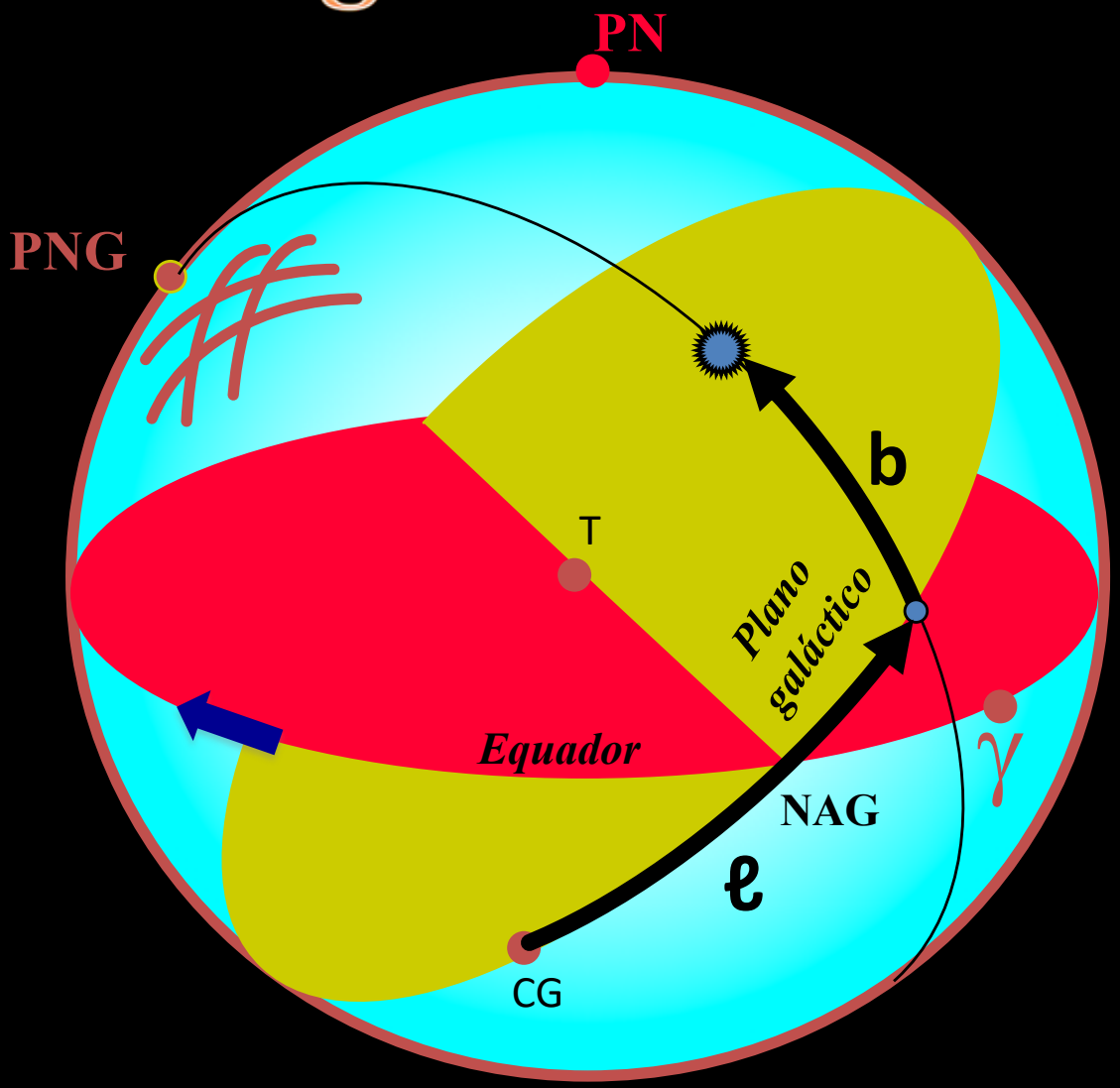
NAG $\alpha = 18^h49^m$
$\delta = 0,0^o$

CG $\alpha = 17^h42,4^m$
$\delta = -28,9^o$

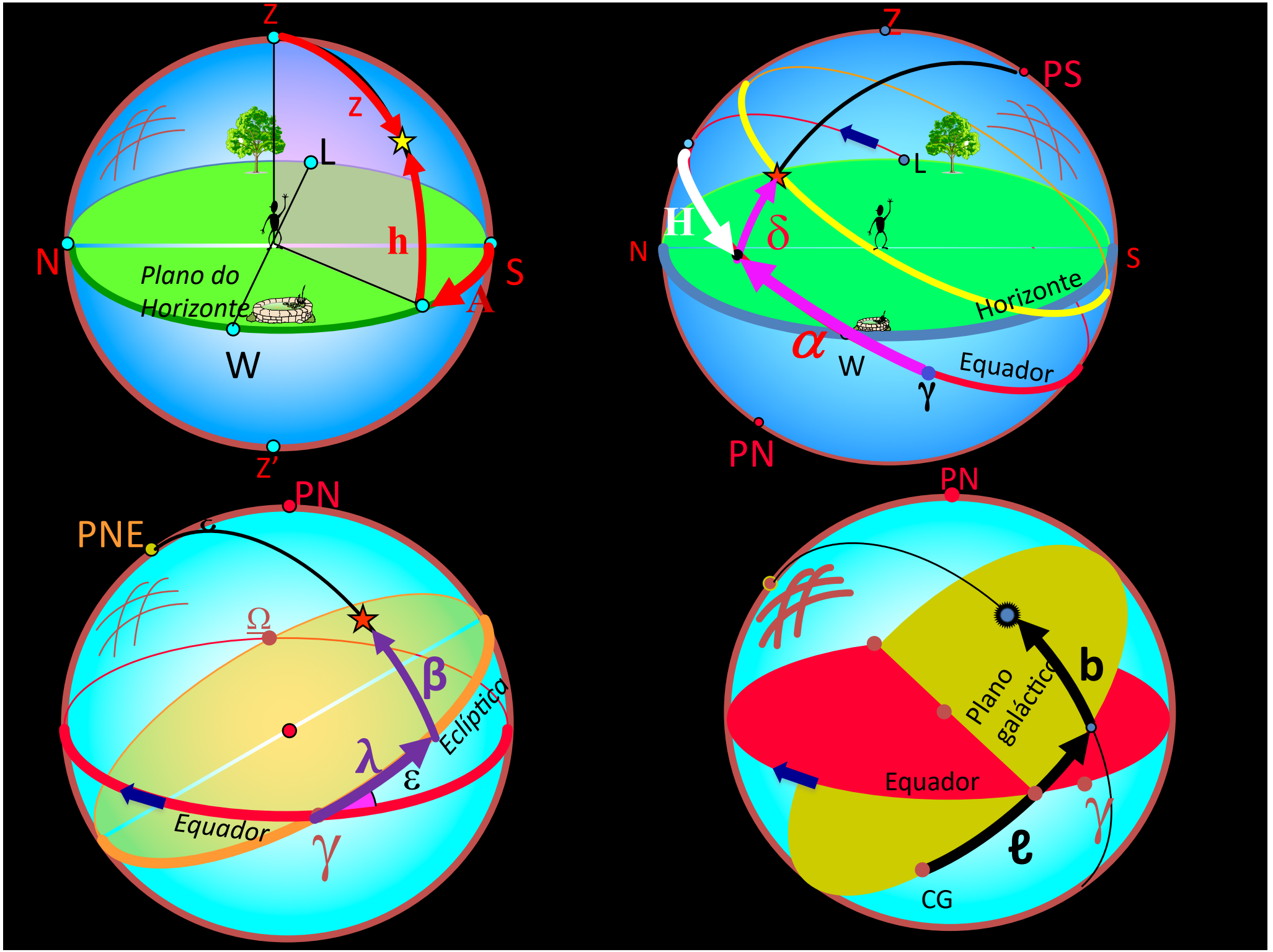
Sistema de coordenadas galático

b = latitude galática
$-90^o \leq b \leq 90^o$

l = longitude galática
$0^o \leq l \leq 360^o$



Adaptado de R. Boczko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