

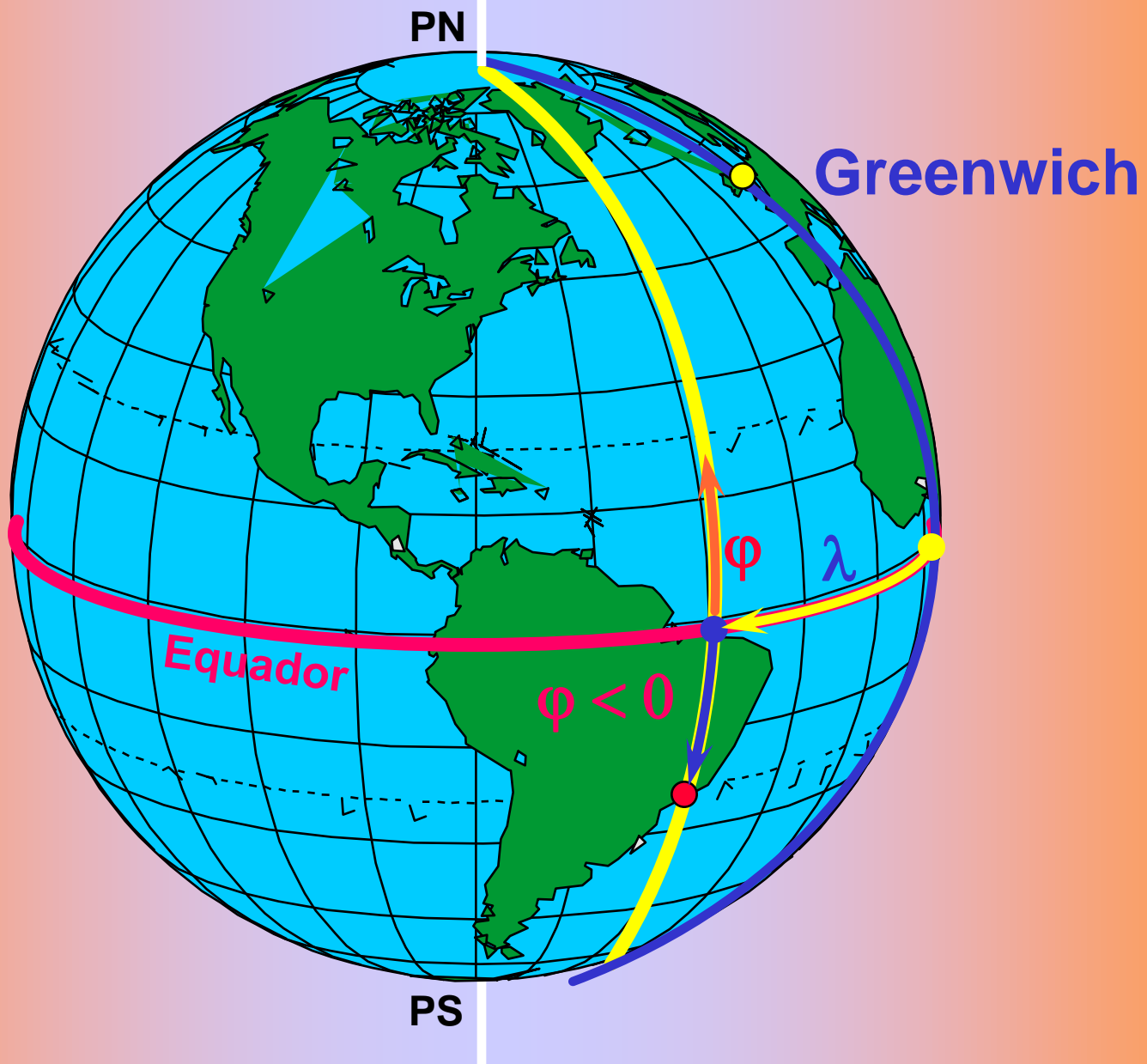
Latitudes Geográfica e Astronômica

**Jorge Meléndez,
baseado no Prof. R. Boczko**

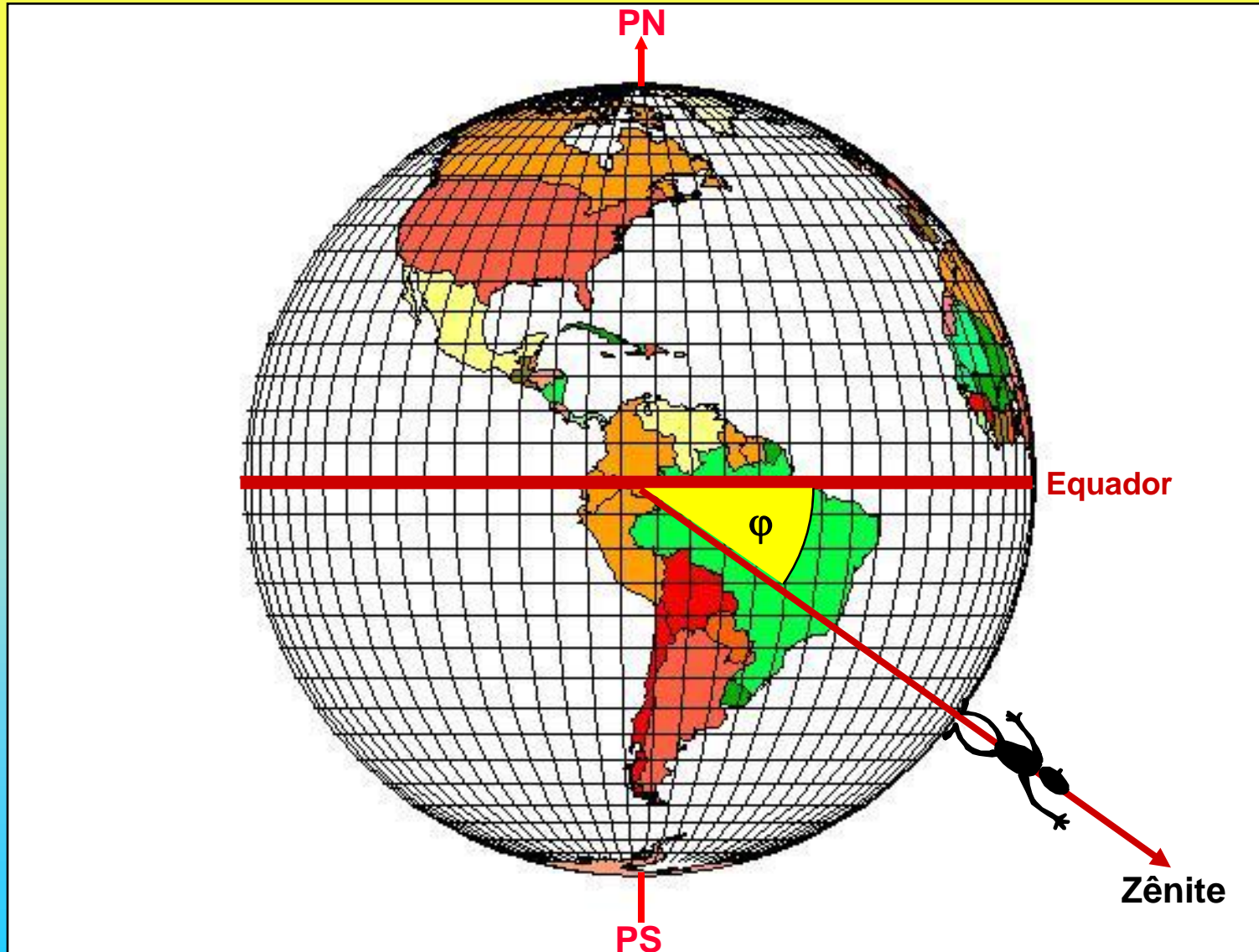
IAG-USP

Latitude Geográfica

Latitude φ e Longitude λ

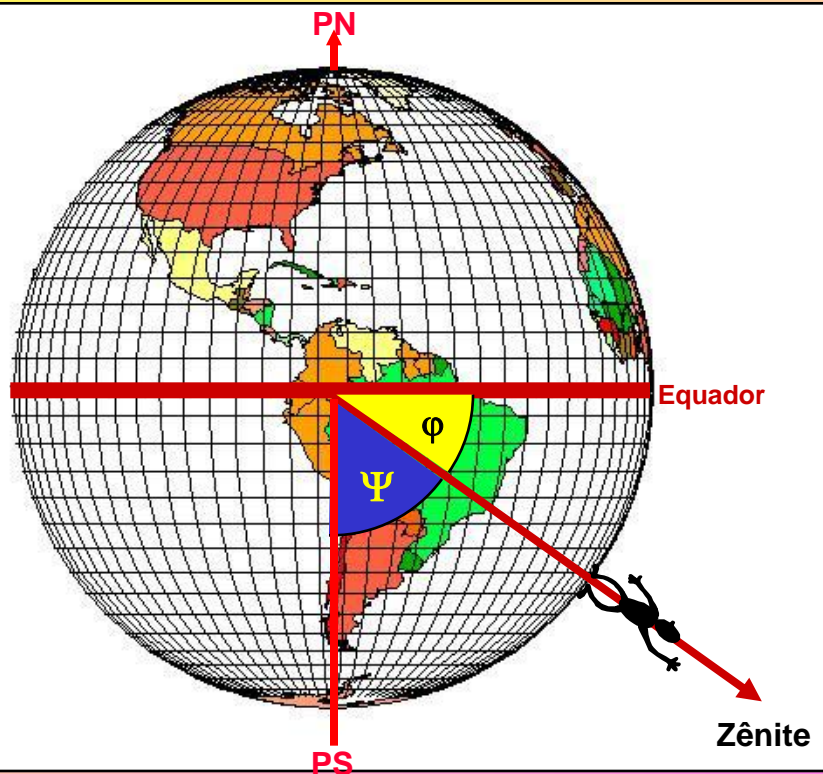


Latitude geográfica



Co-latitude geográfica Ψ

Co-latitude é o complemento da latitude.



Módulo da Co-latitude Ψ é o complemento do módulo da latitude φ .

$$\Psi \equiv 90^\circ - |\varphi|$$

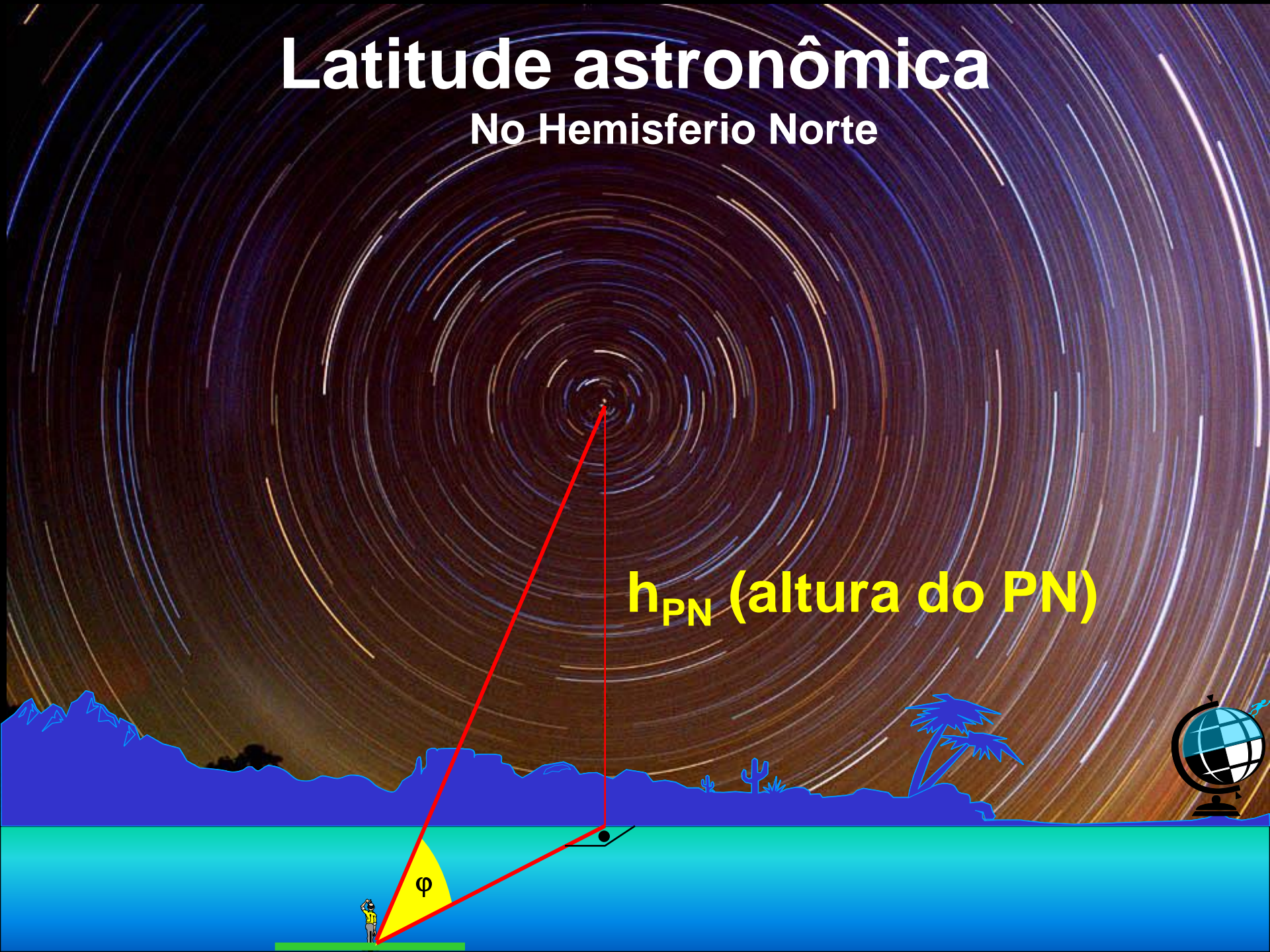
$$\Psi \equiv 90^\circ - \varphi_{\text{Norte}}$$

$$\Psi \equiv 90^\circ + \varphi_{\text{Sul}}$$

Latitude astronômica

Latitude astronômica

No Hemisferio Norte

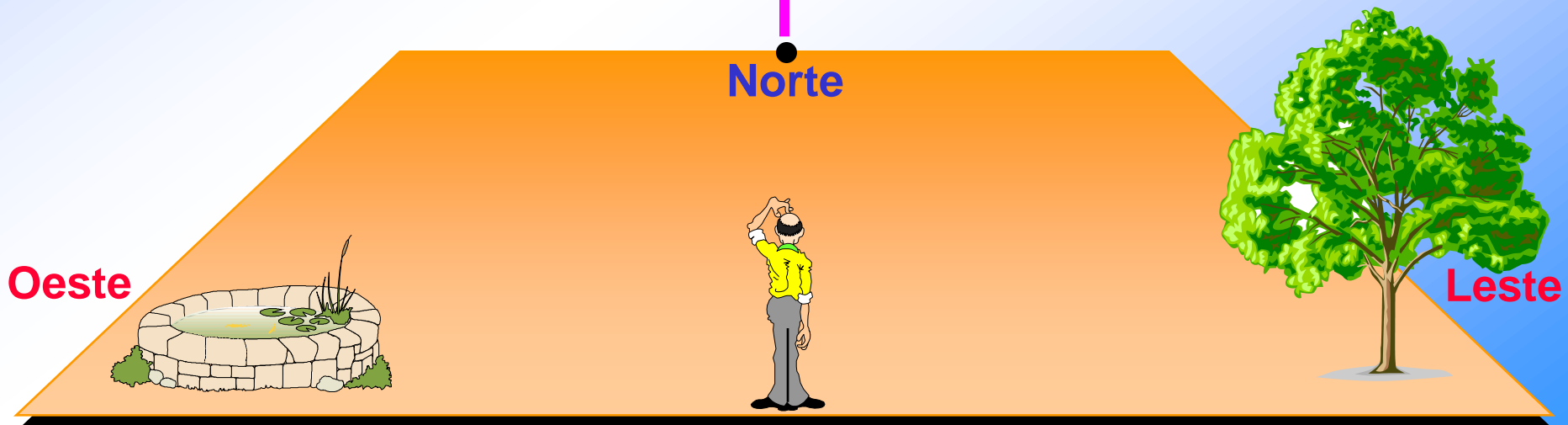
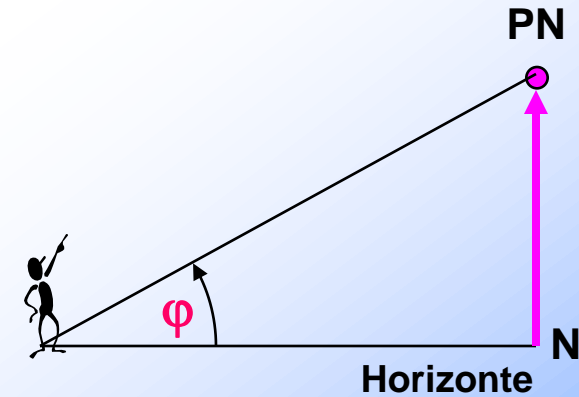
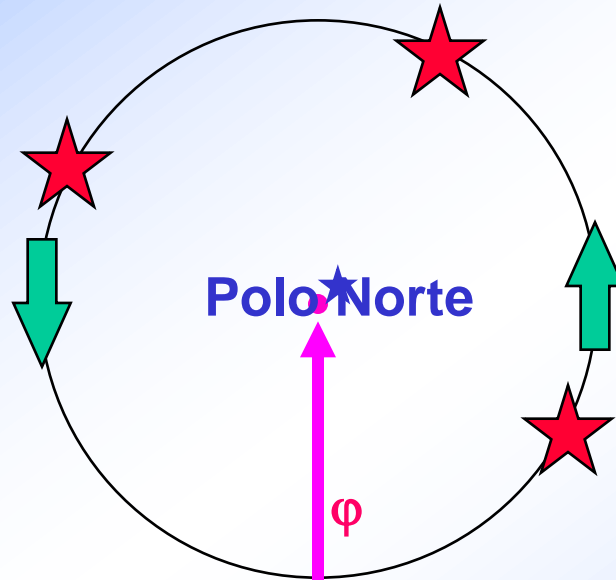


h_{PN} (altura do PN)

ϕ

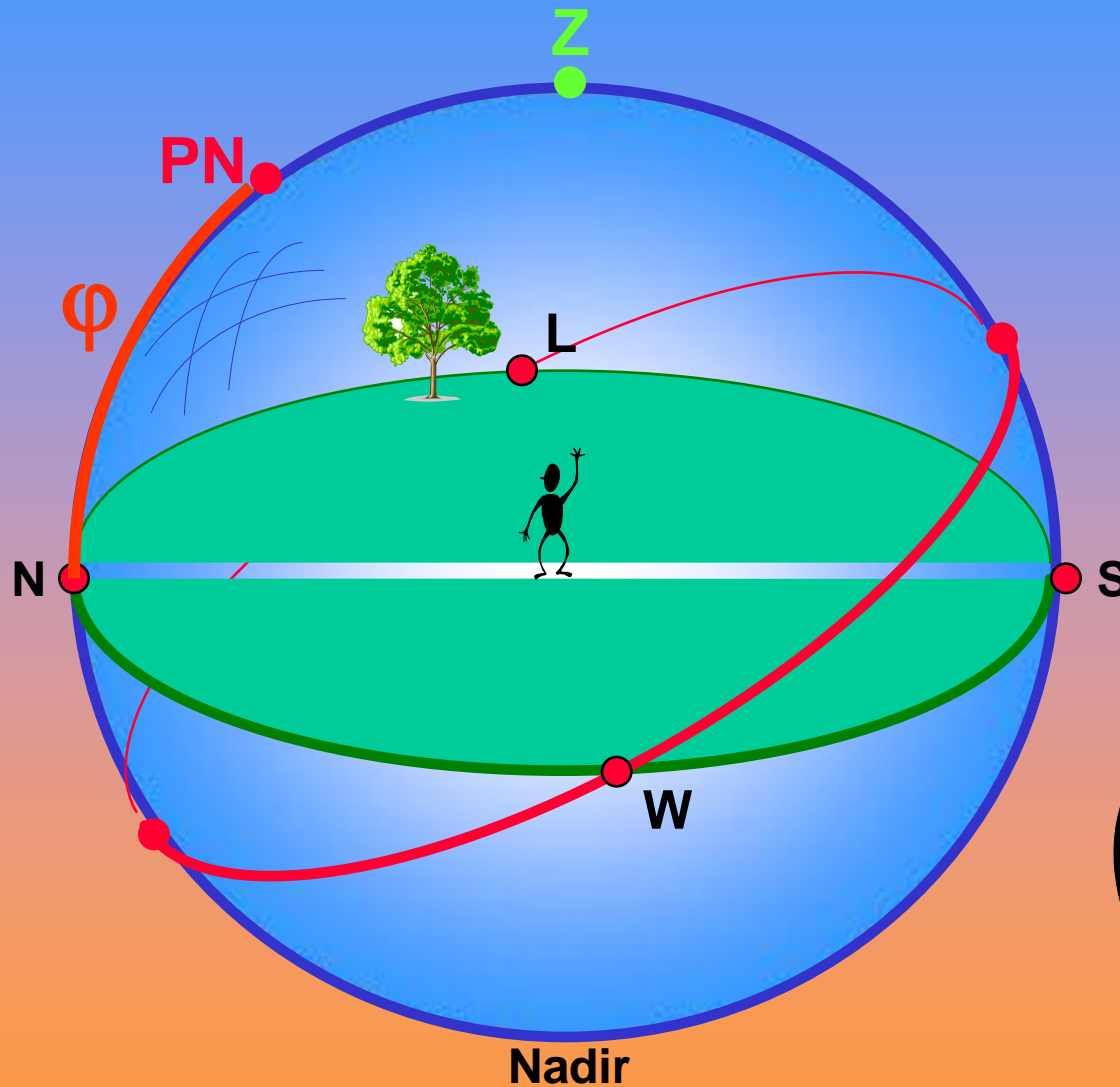
Latitude astronômica = h_{PN}

No Hemisferio Norte



Latitude Boreale

$$\varphi \equiv h_{PN}$$



Latitude astronômica

No Hemisfério Sul

h_{PS}
(altura do PS)

ϕ



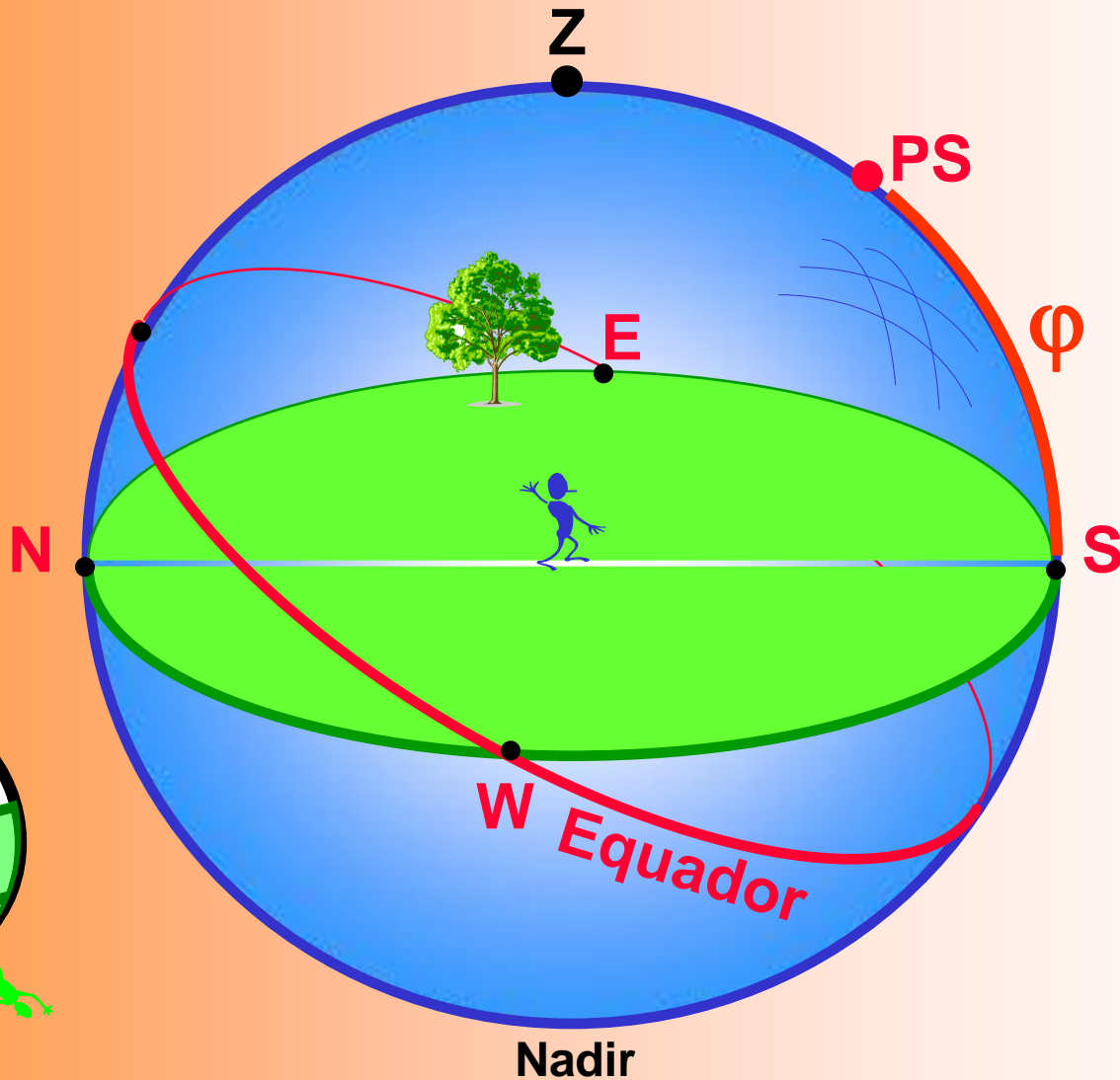
Latitude astronômica: $-h_{PS}$

No Hemisferio Sul



Latitude Austral

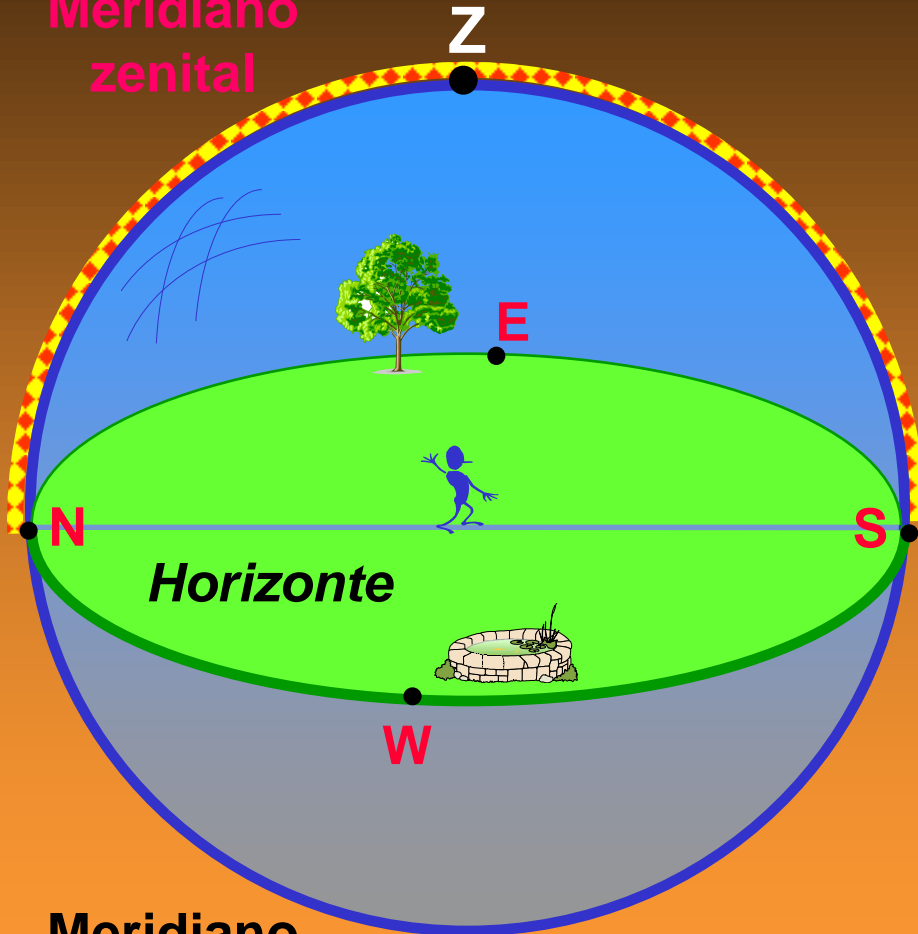
$$\varphi = -h_{PS}$$



Meridiano

Tipos de Meridianos

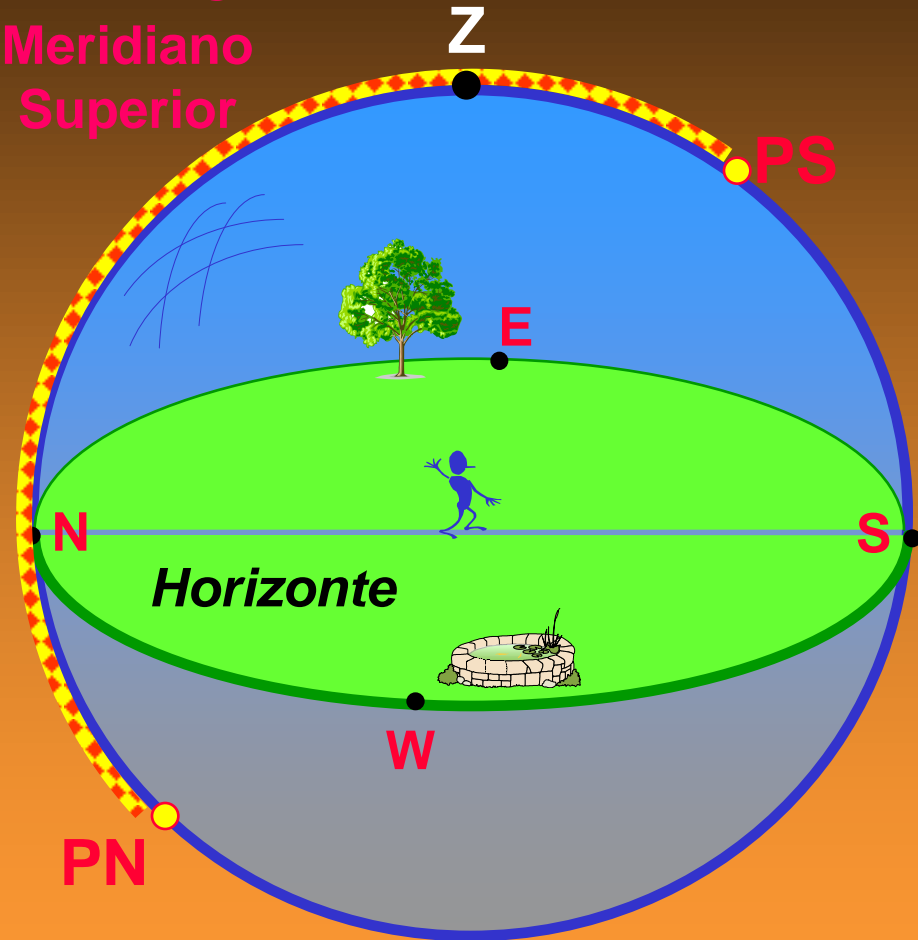
NZS
Meridiano
zenital



Meridiano
nadiral
NÑS

Ñ
Nadir

PN-Z-PS
Meridiano
Superior

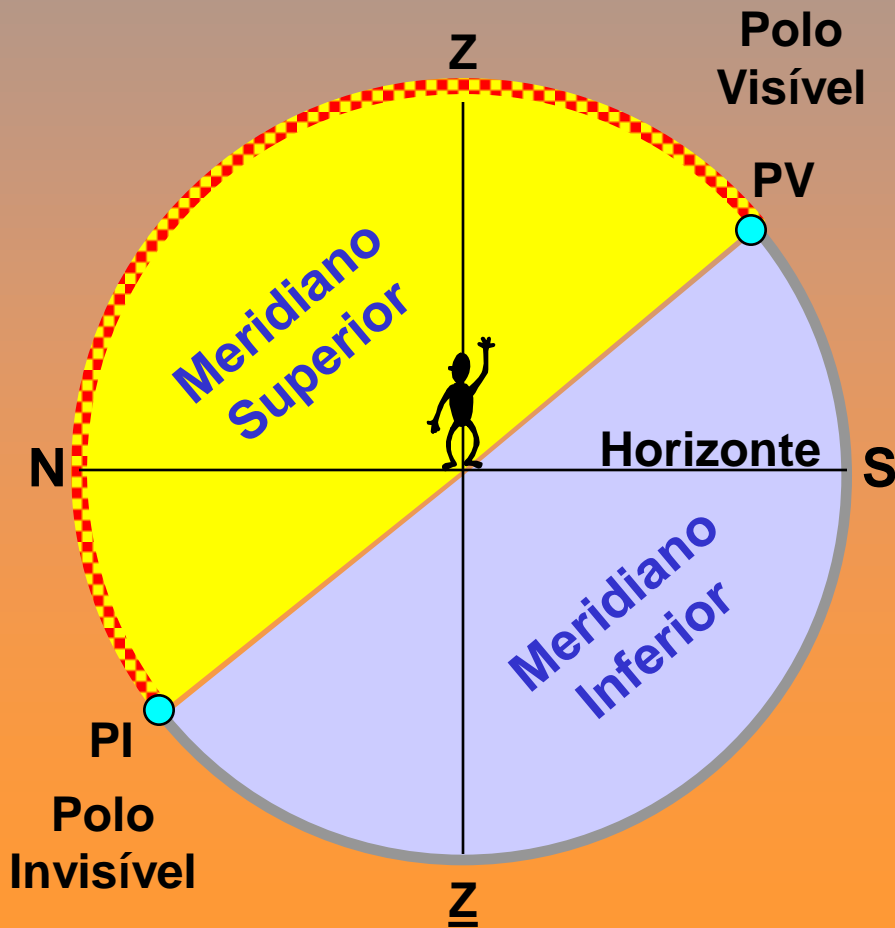
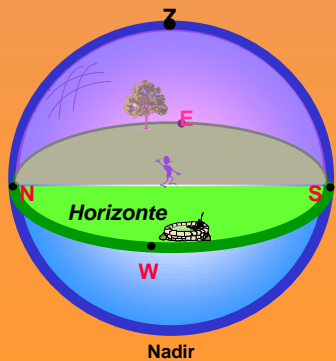
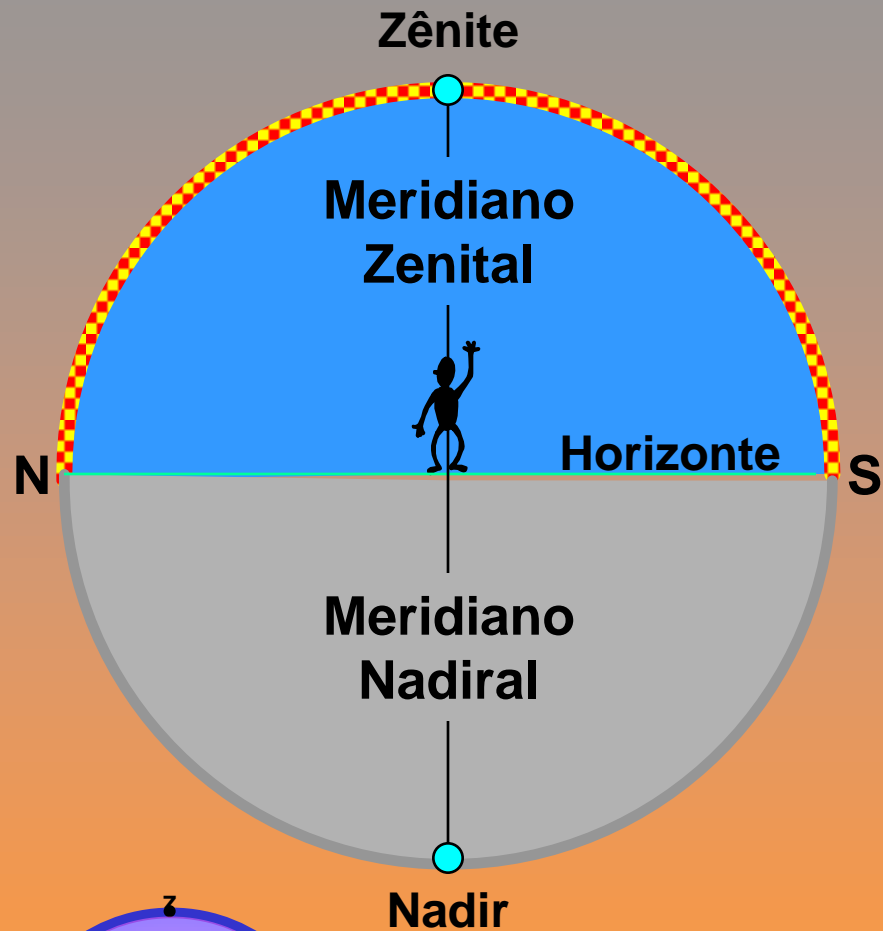


Meridiano
Inferior
PN-Ñ-PS

Ñ
Nadir

Tipos de Meridianos

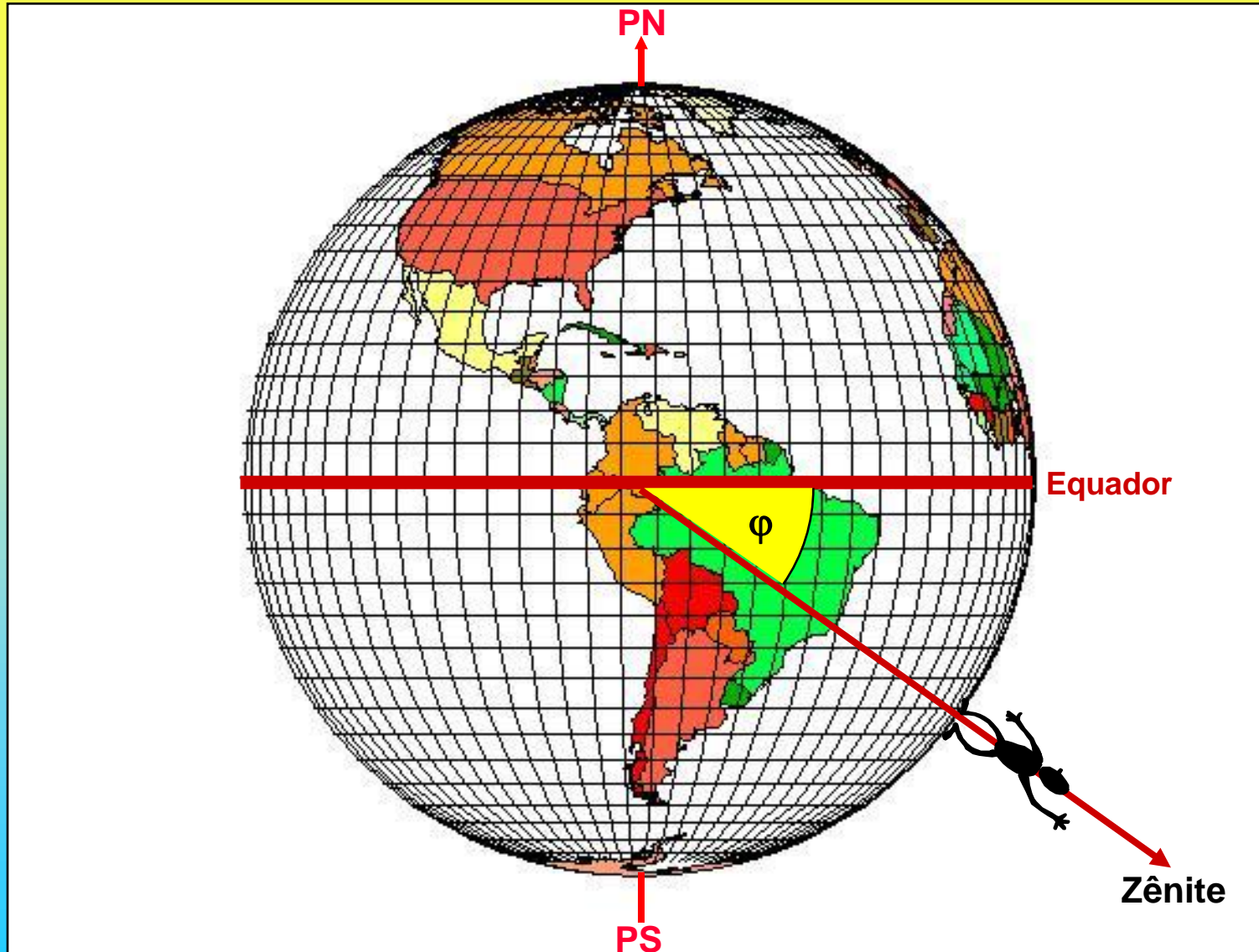
(Observador no HS)



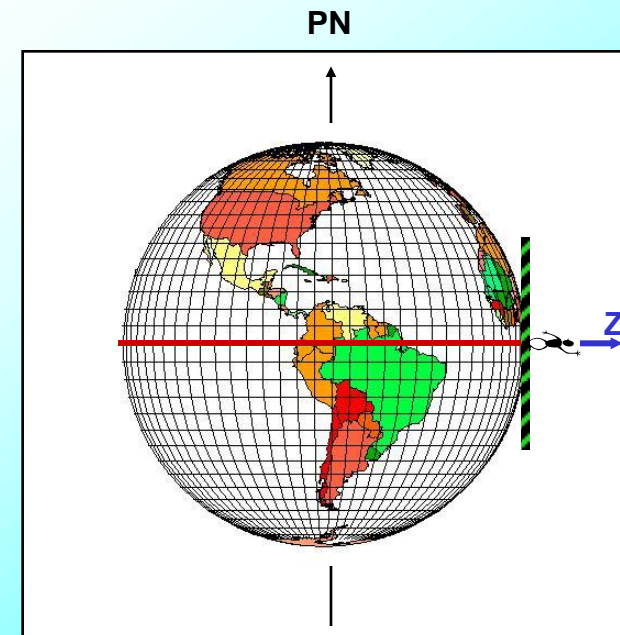
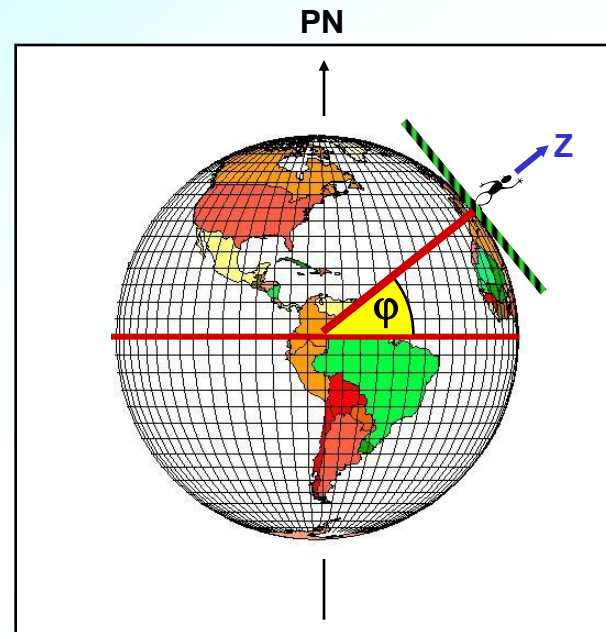
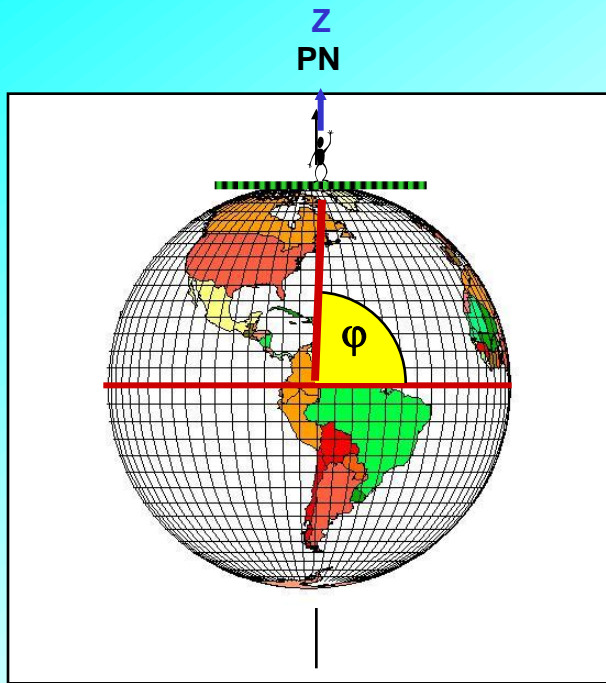
Relacionar latitude geográfica com a astronômica

Terra suposta esférica!

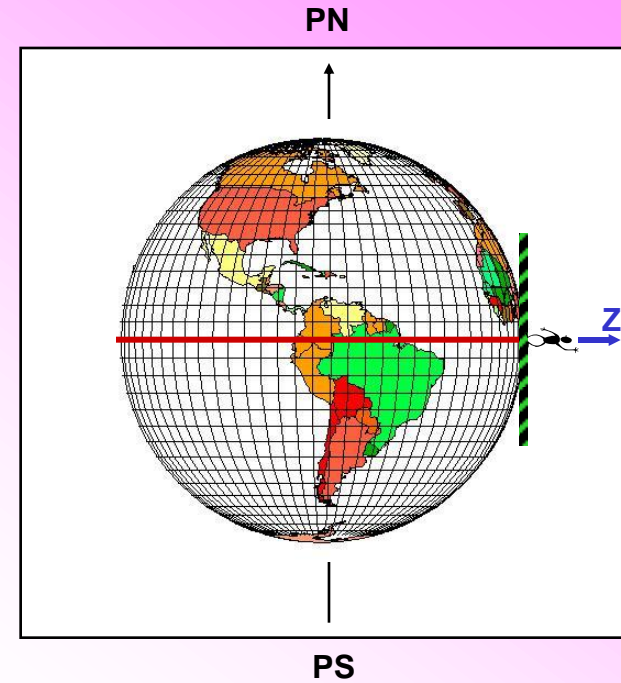
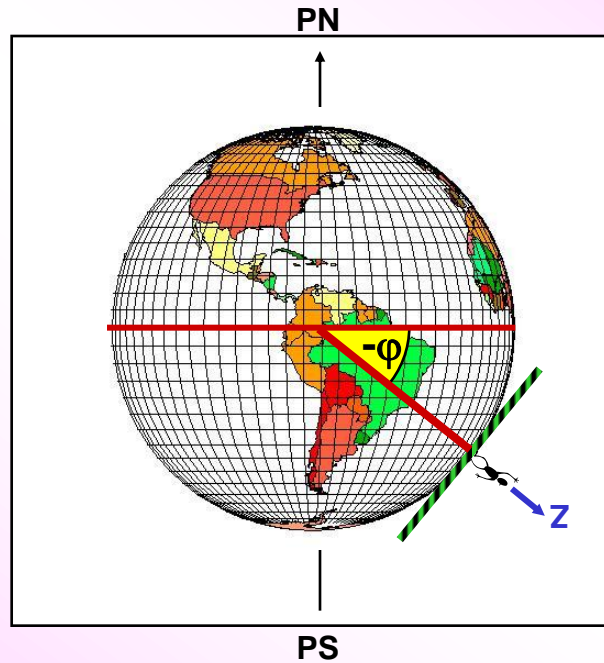
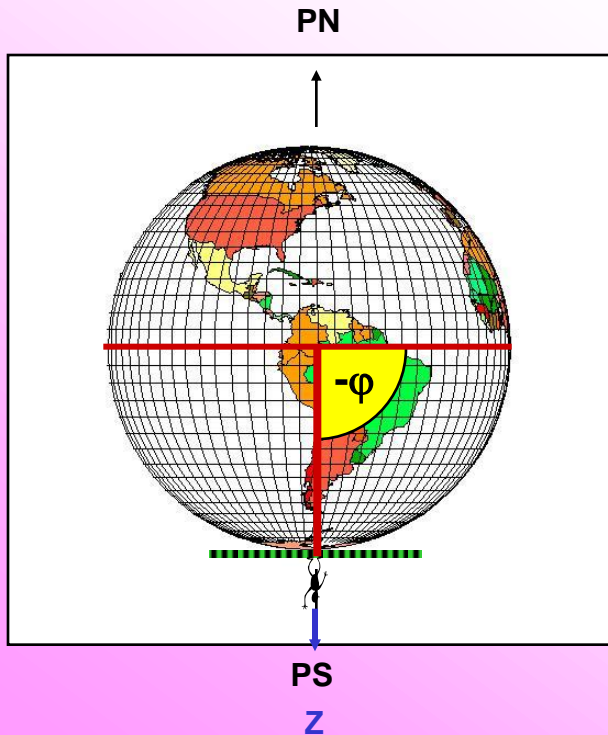
Latitude geográfica



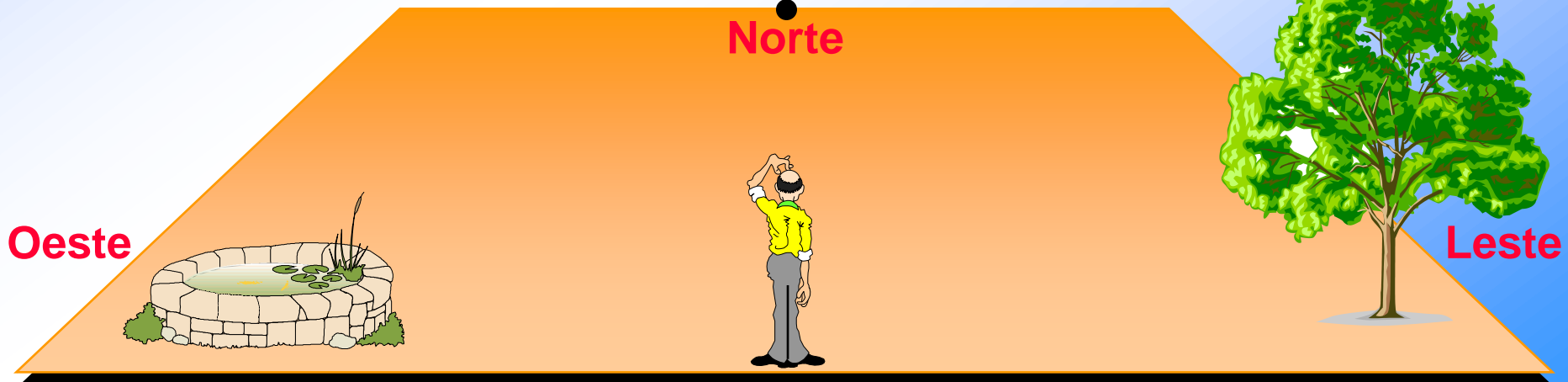
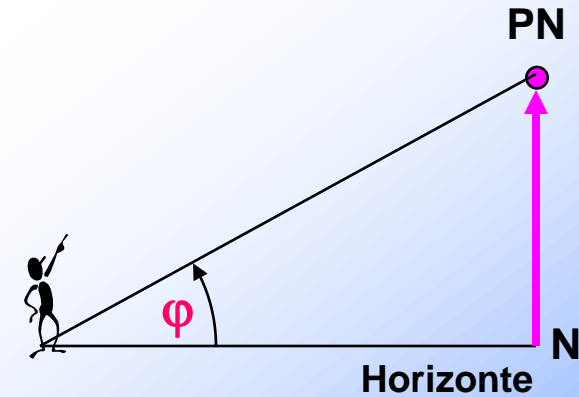
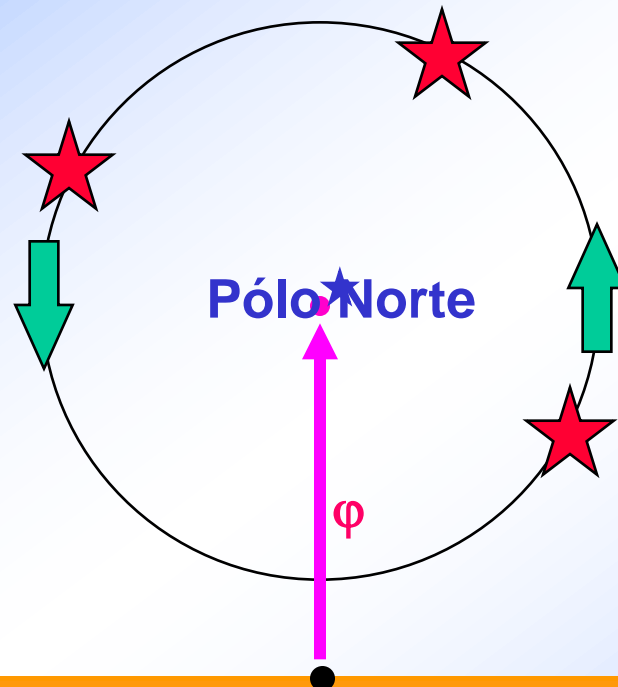
Latitudes geográficas boreais

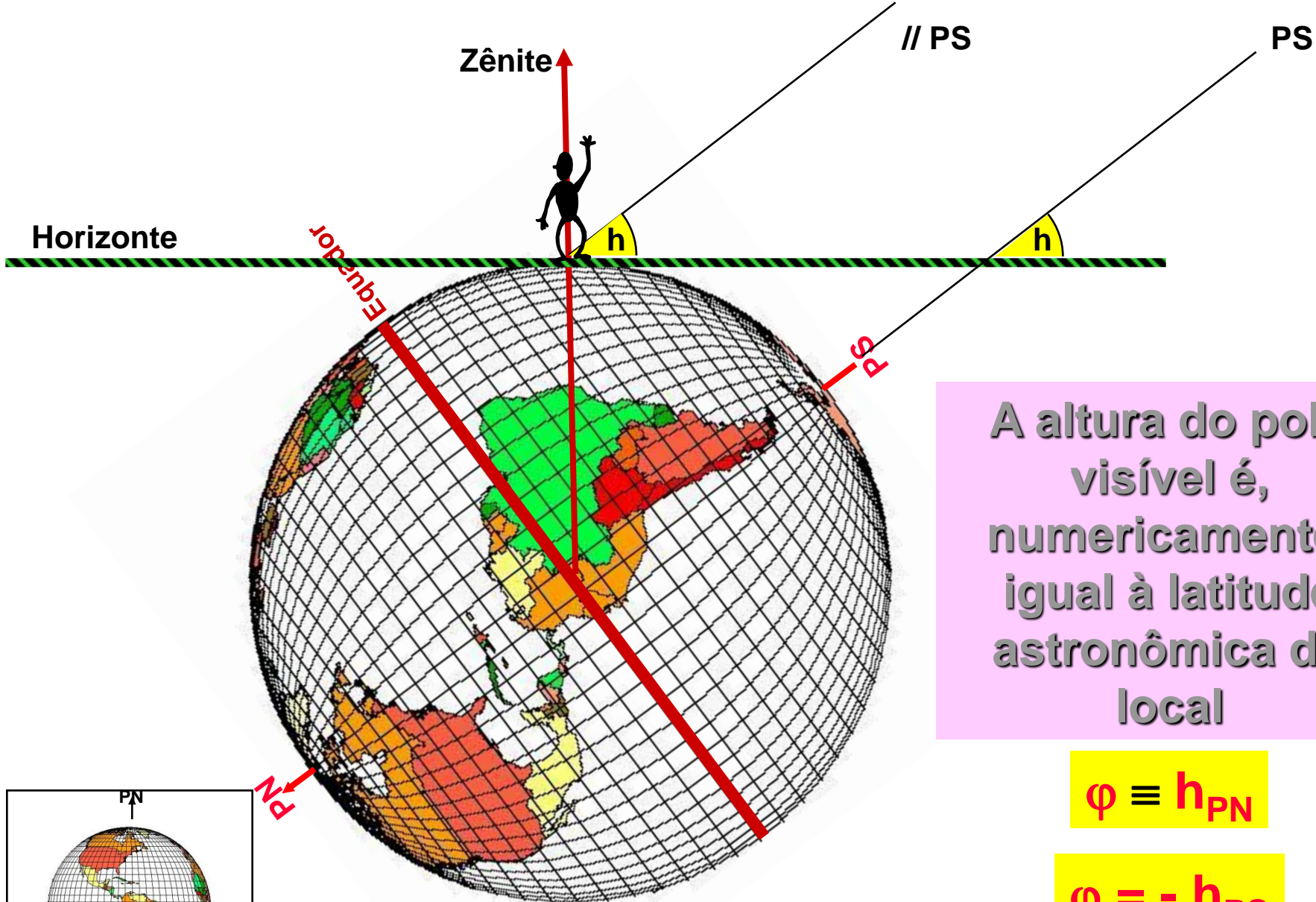


Latitudes geográficas austrais



Latitude astronômica = h_{polo}



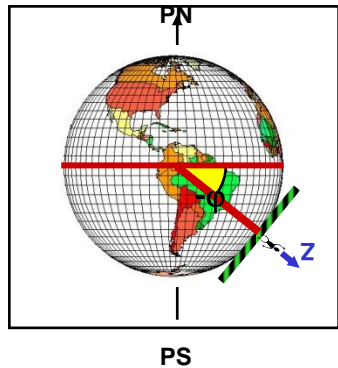


A altura do polo visível é, numericamente, igual à latitude astronômica do local

$$\varphi \equiv h_{PN}$$

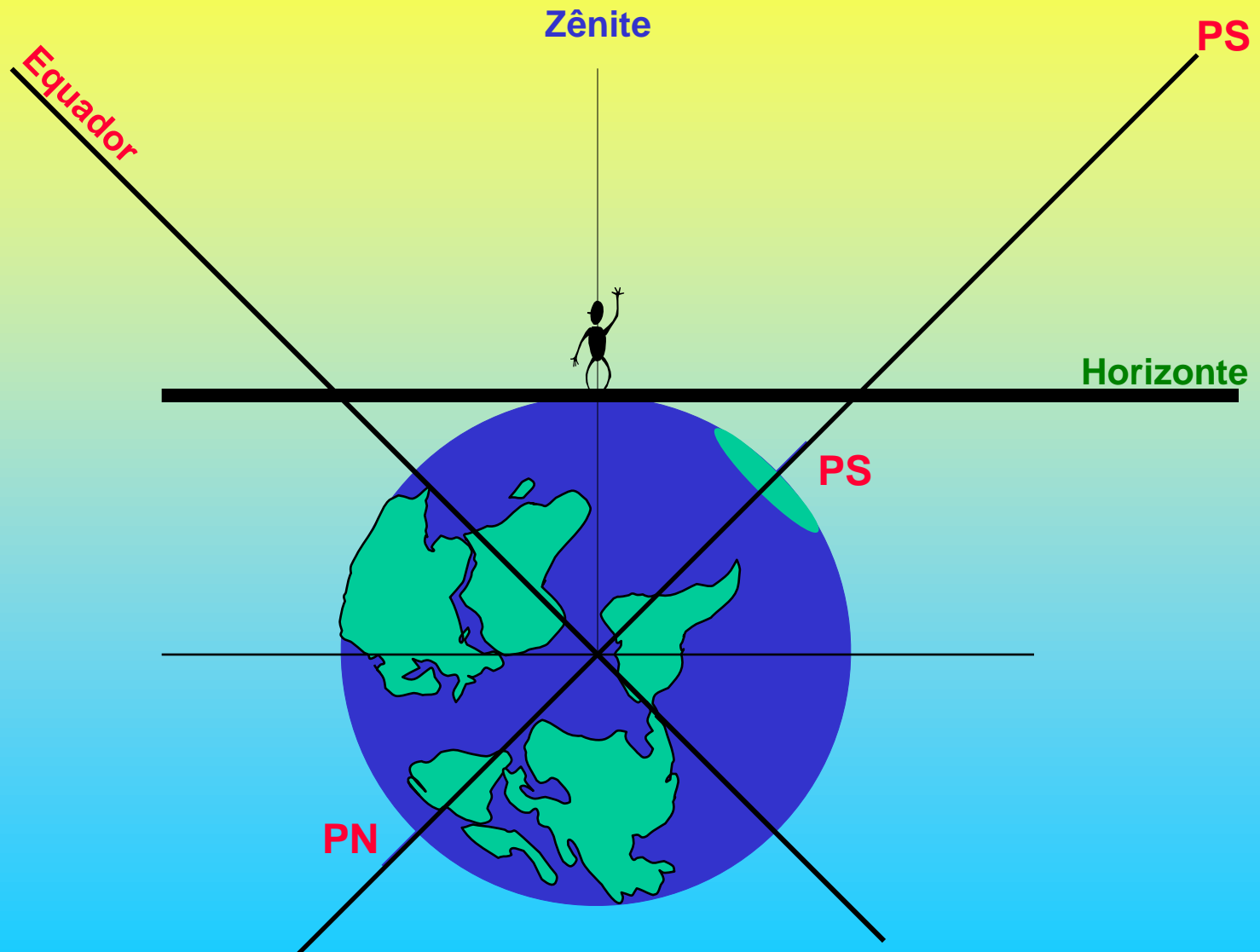
$$\varphi = - h_{PS}$$

Latitude astronômica

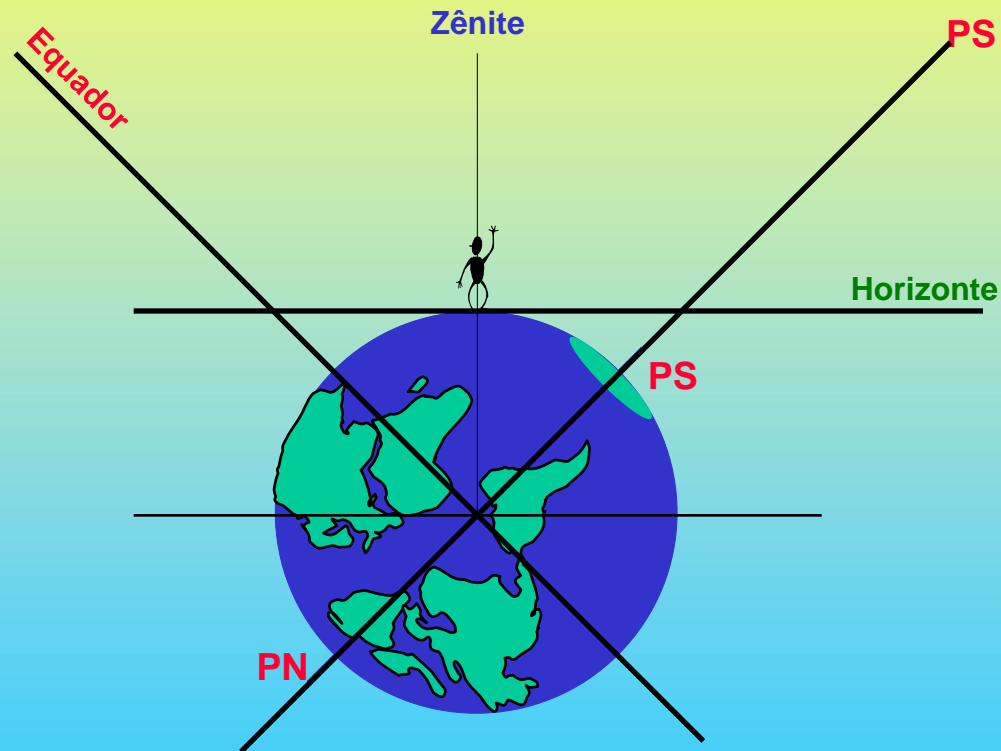


Representação da Terra e da Esfera Celeste

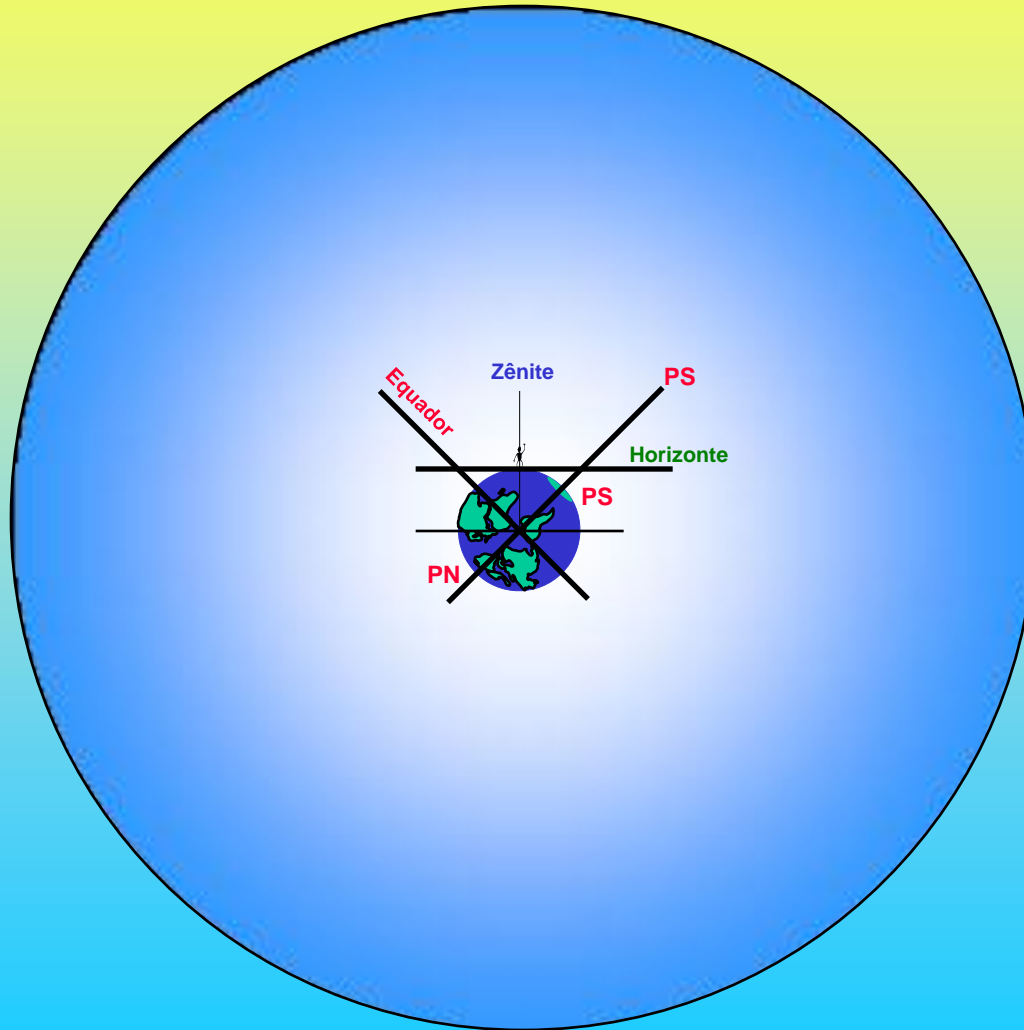
Representação da Terra



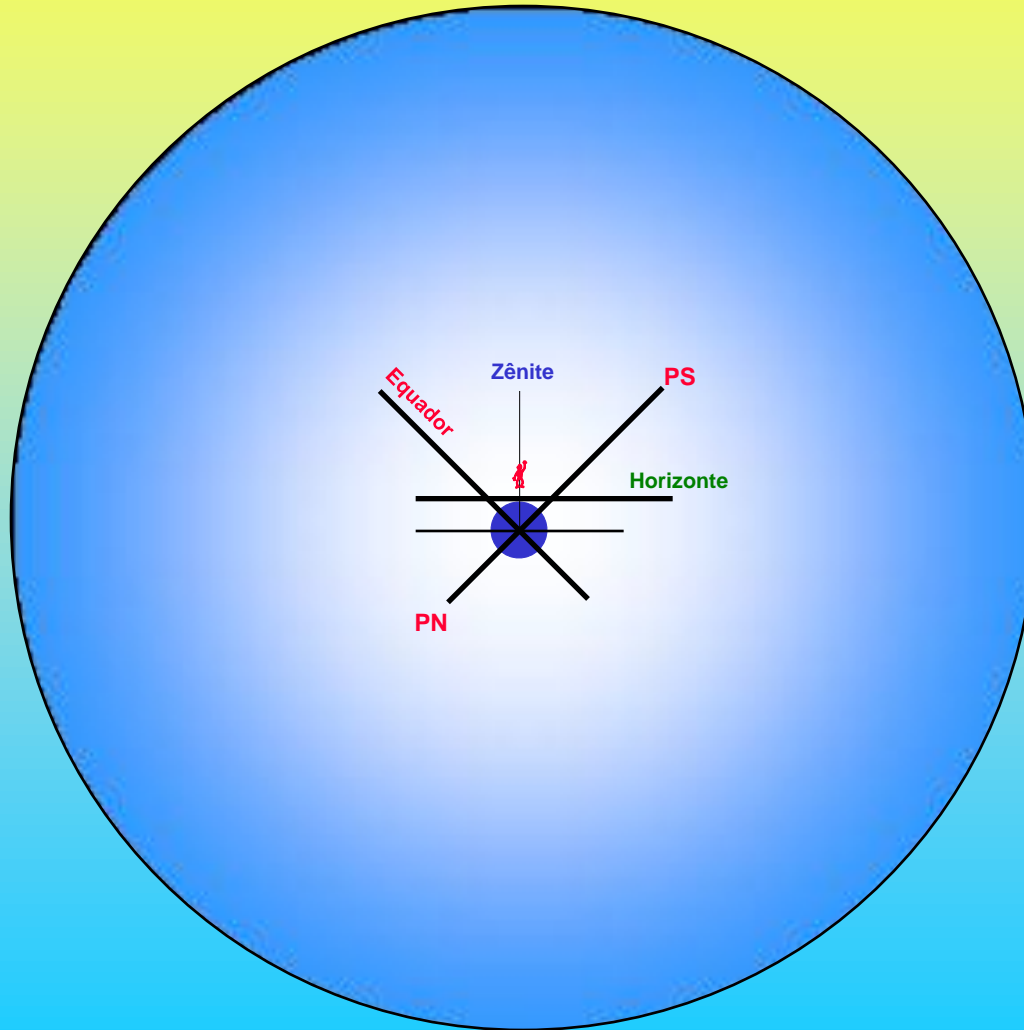
Representação da Terra



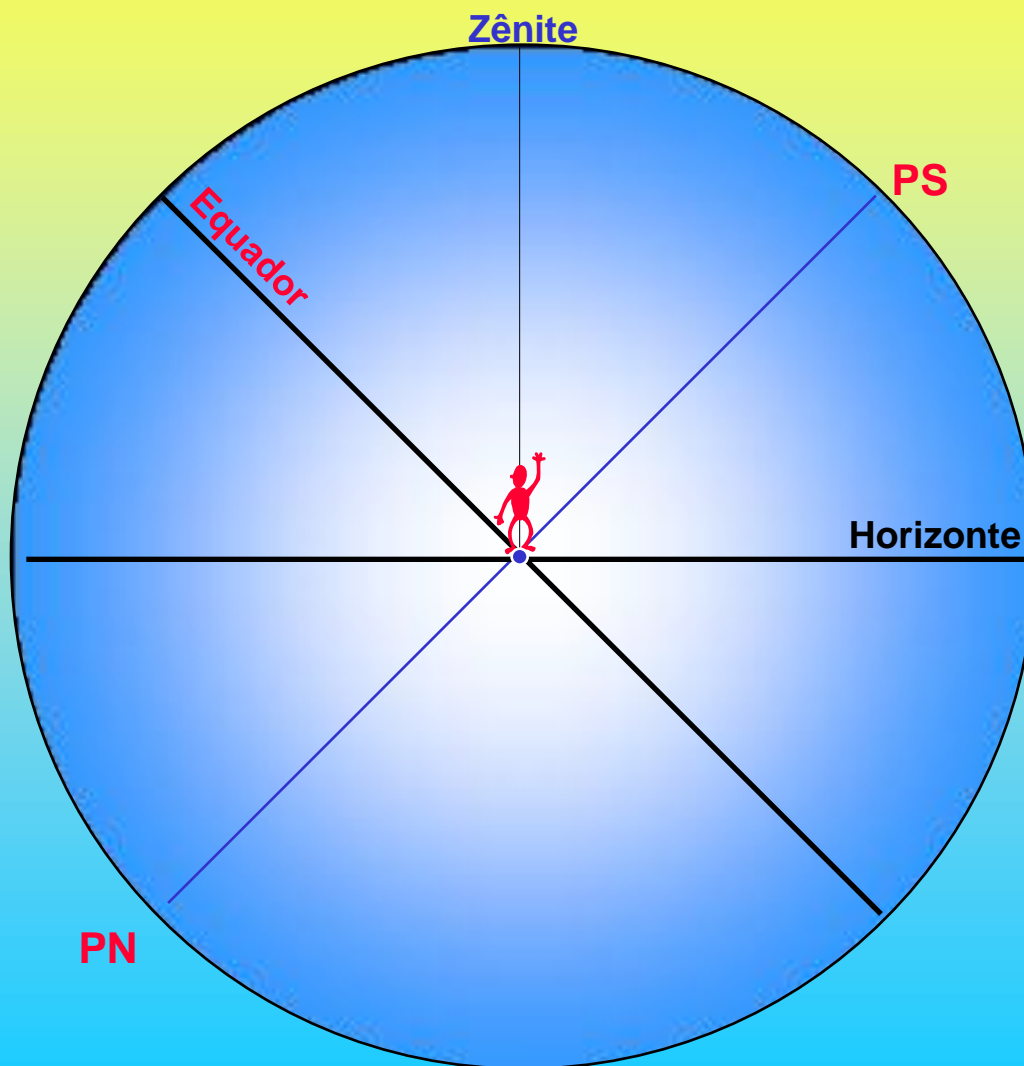
Representação da Terra e da Esfera Celeste



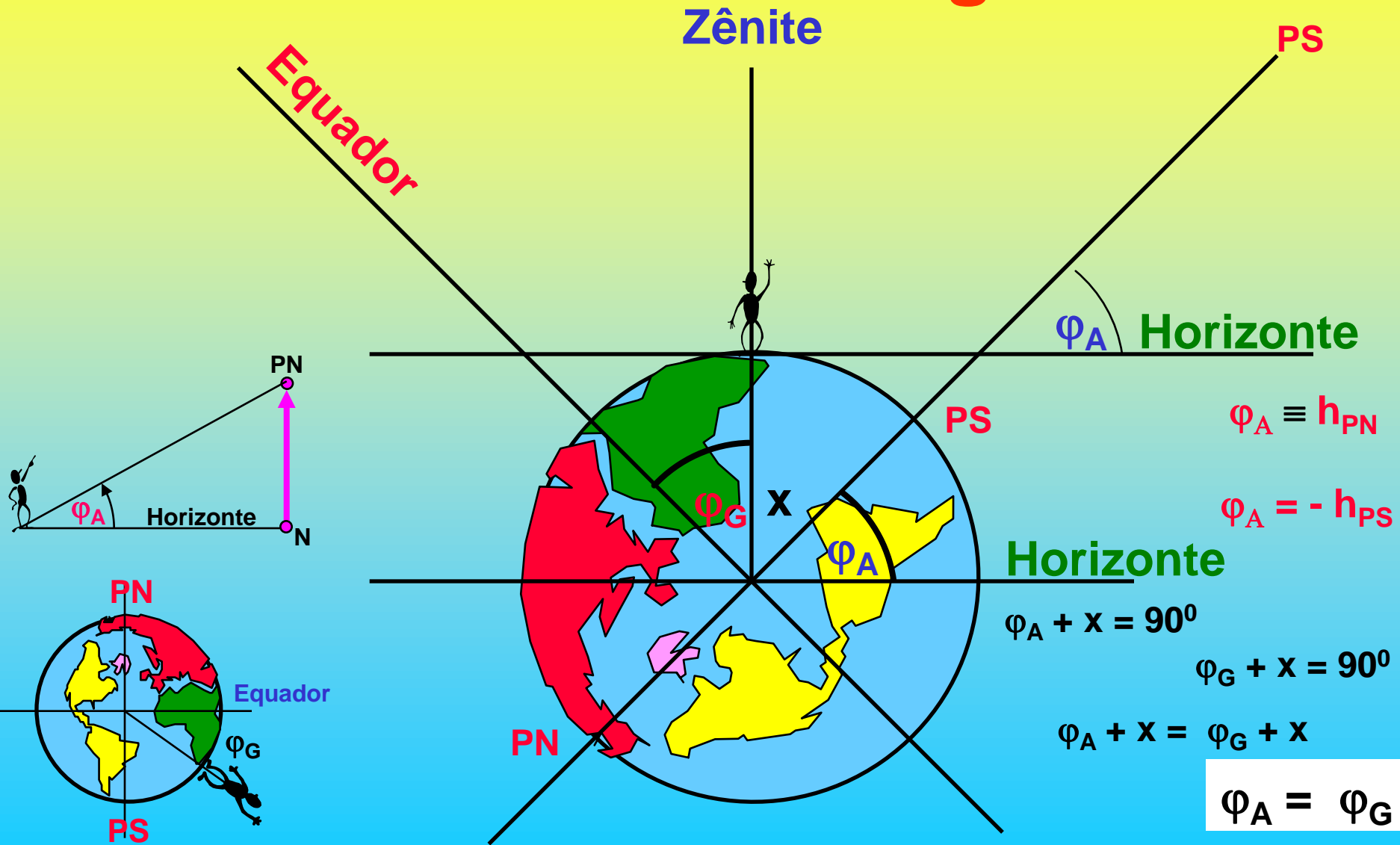
Representação da Terra e da Esfera Celeste



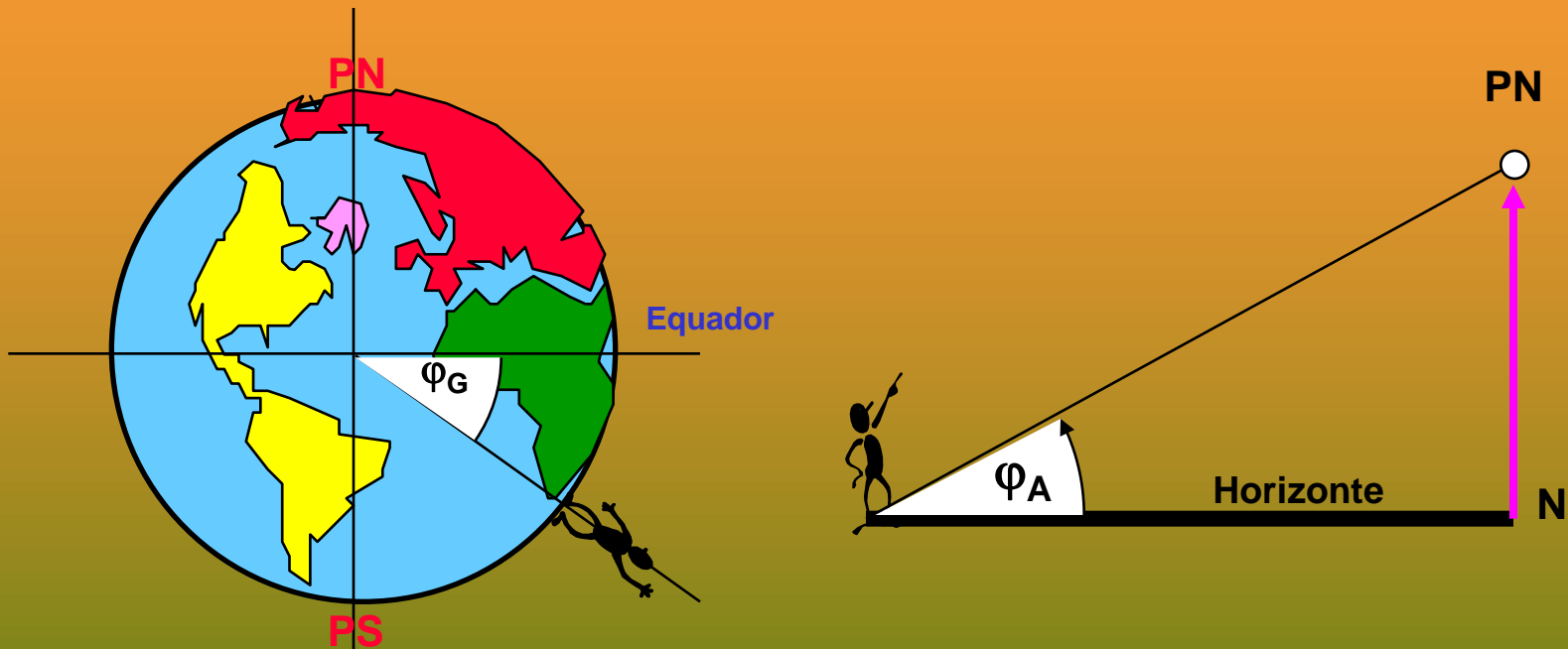
Representação da Terra e da Esfera Celeste "em escala"



Relacionar Latitudes Astronômica e Geográfica

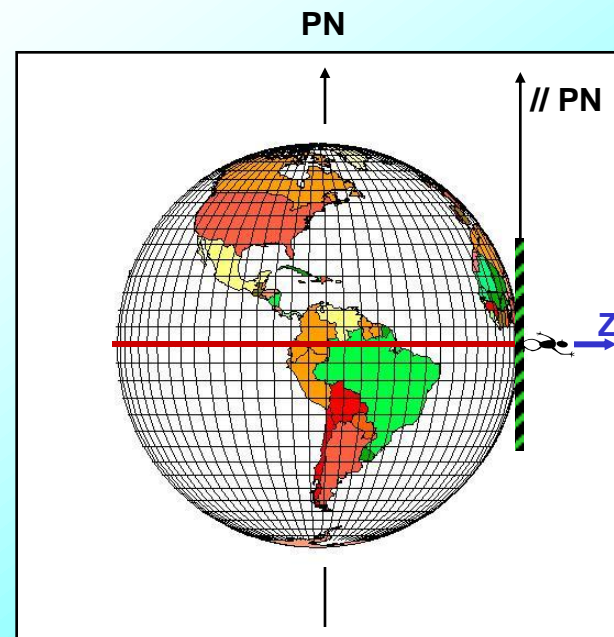
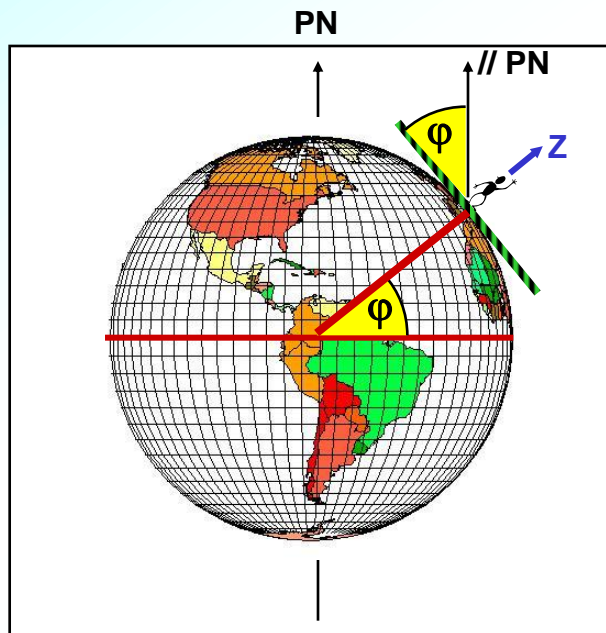
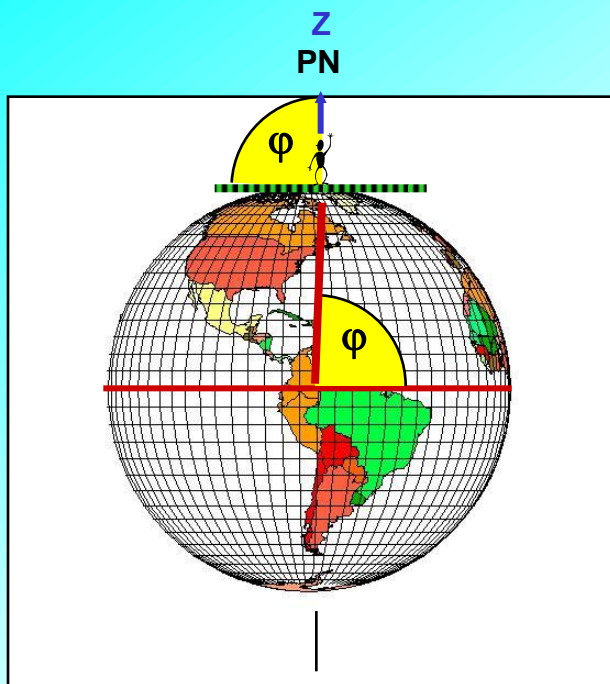


Relação entre Latitudes Astronômica e Geográfica

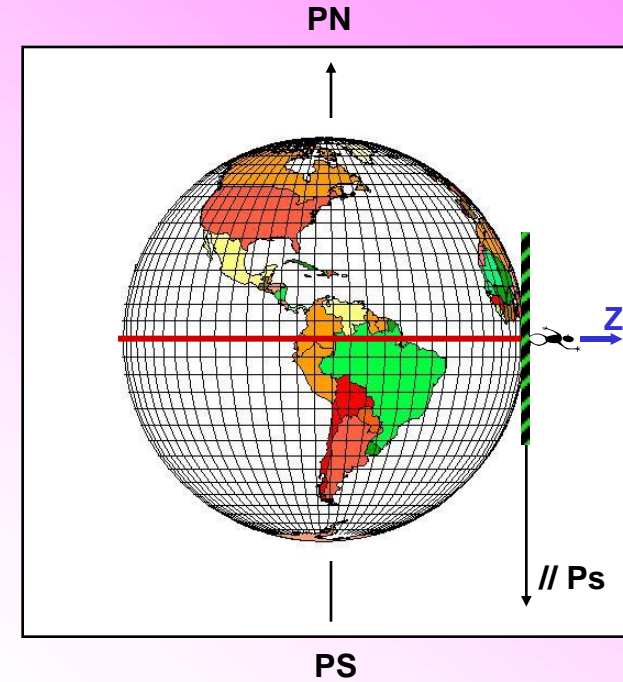
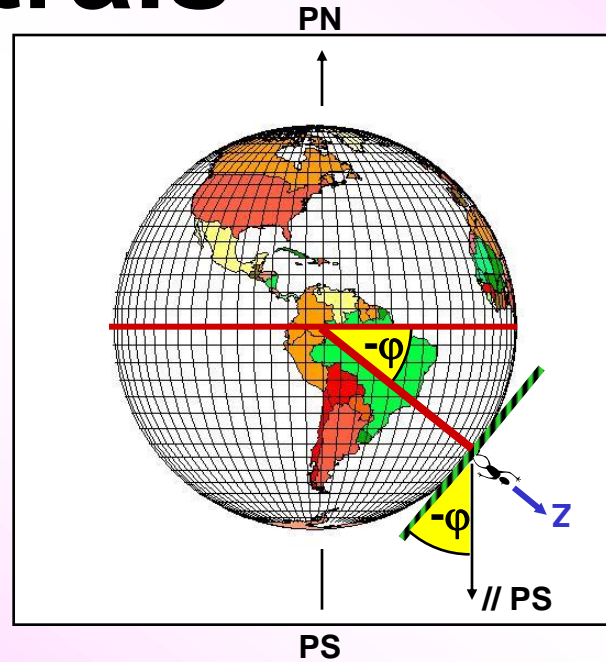
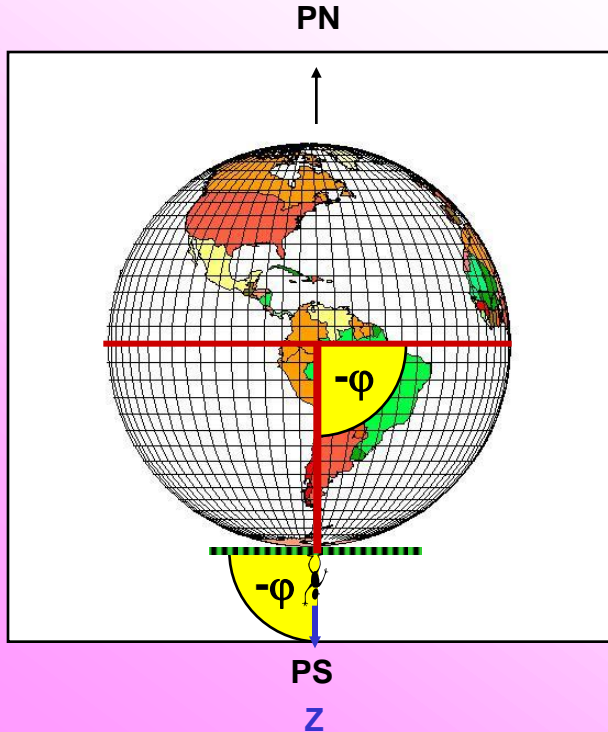


$$\varphi_{\text{Astronômica}} = \varphi_{\text{Geográfica}}$$

Latitudes geográficas e astronômicas boreais



Latitudes geográficas e astronômicas austrais



Film