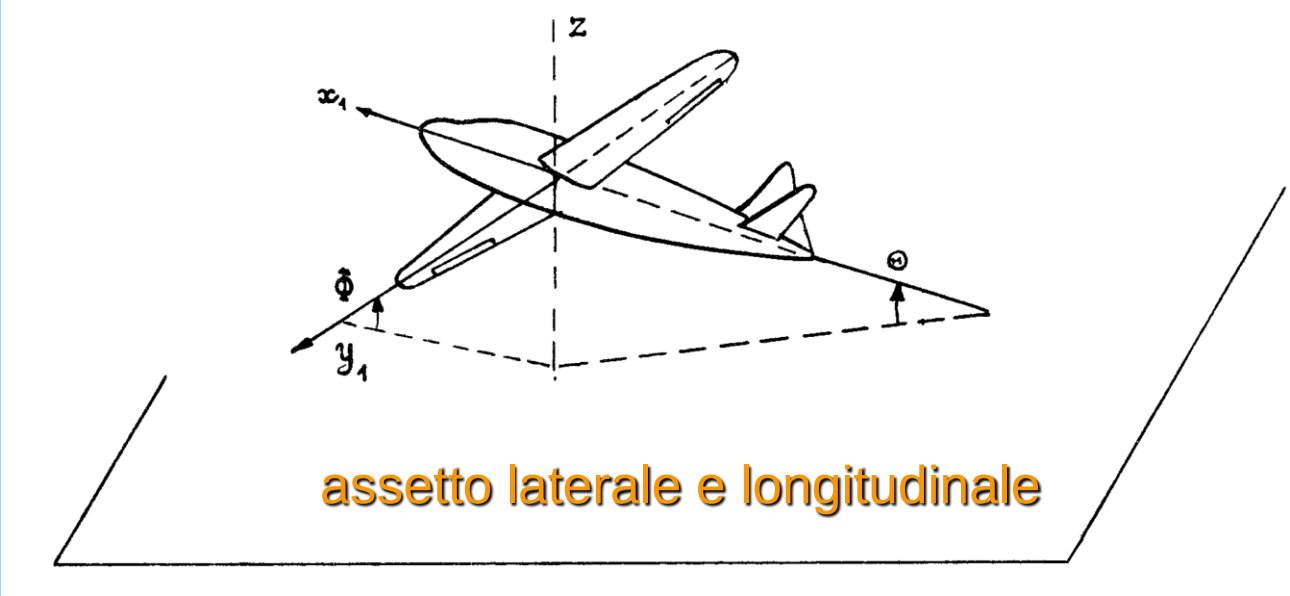
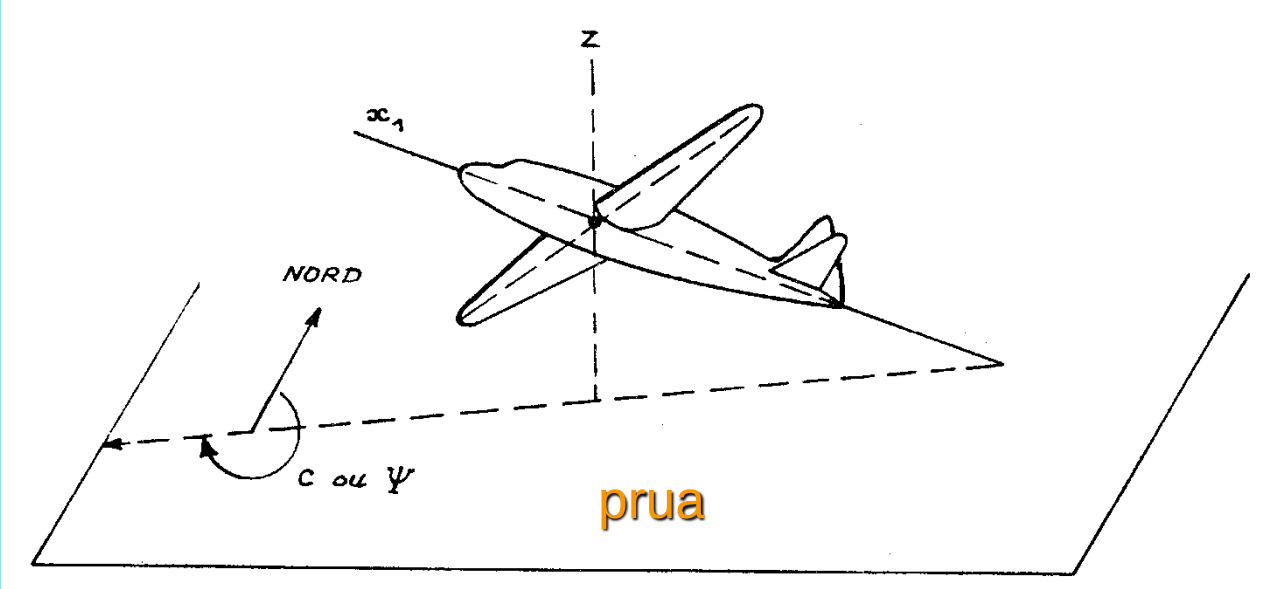
Assetti e prua

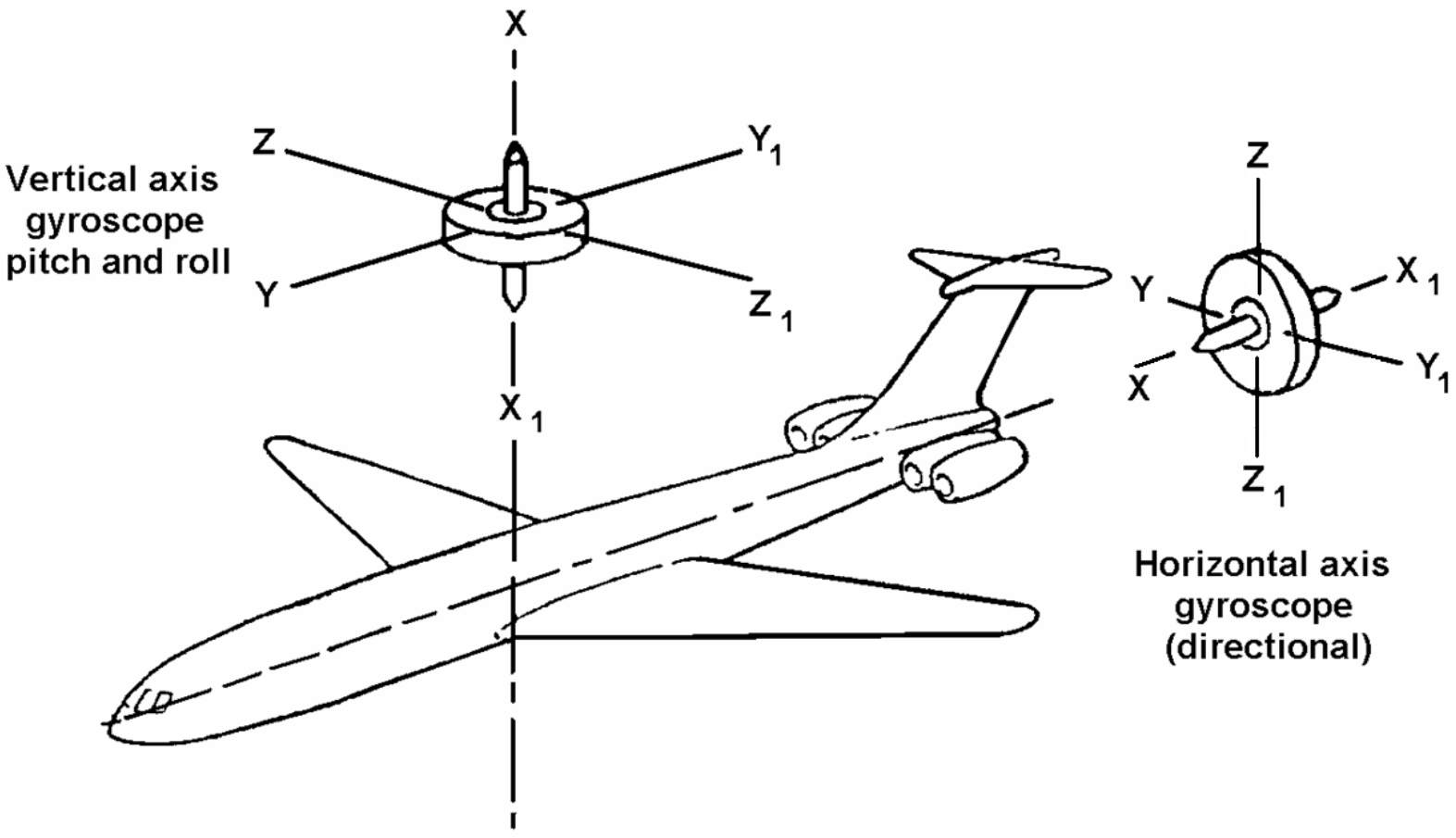


assetto laterale e longitudinale



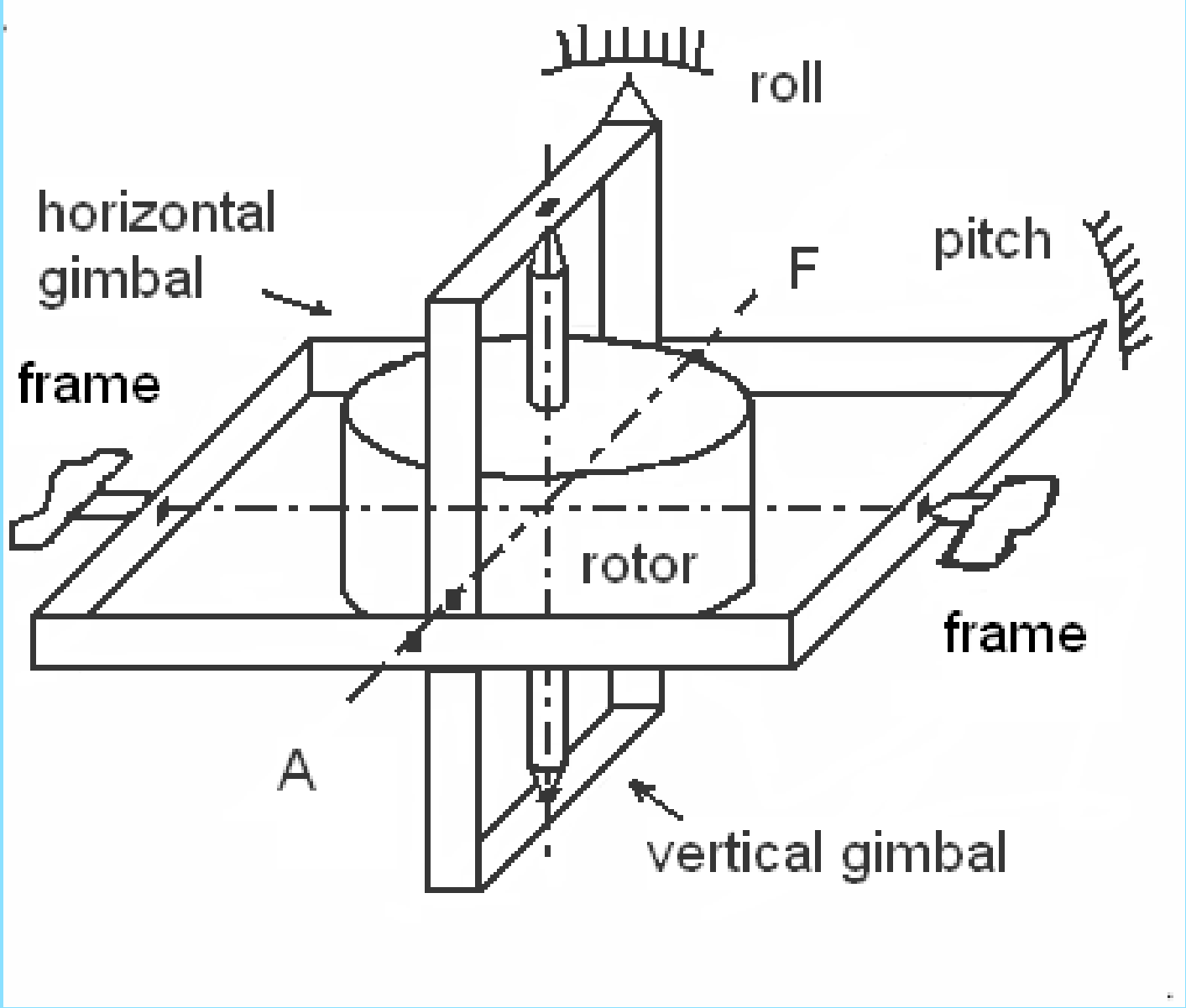
prua

Riferimenti stabiliti da un giroscopio

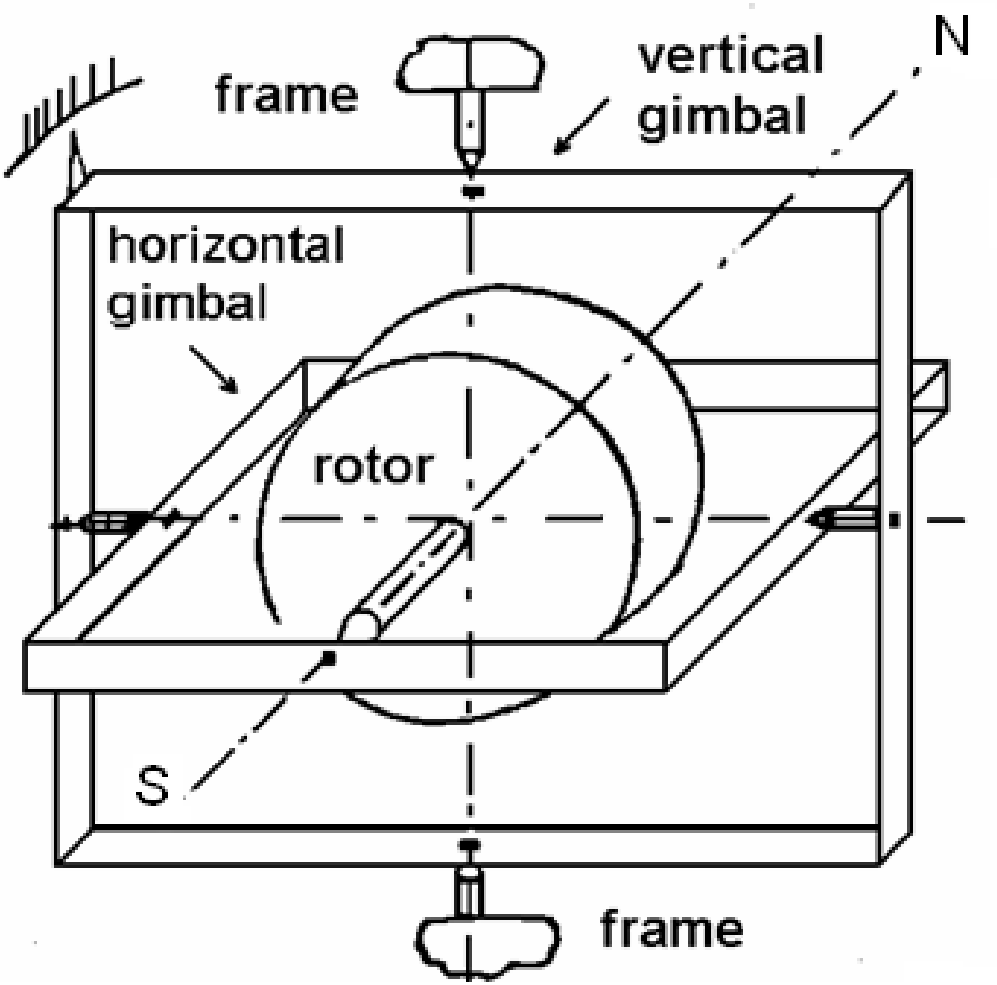


Riferimenti stabiliti da un giroscopio

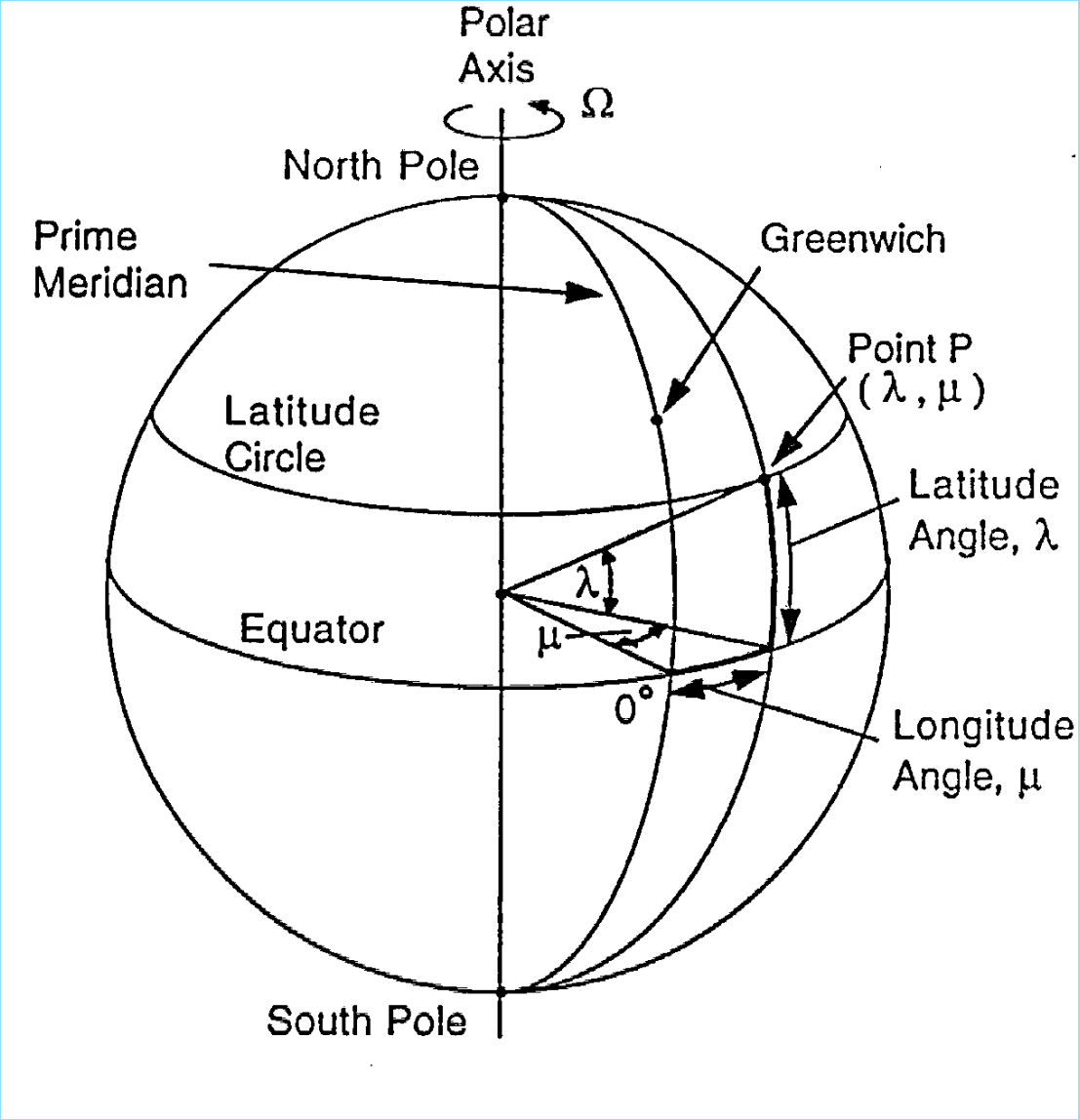
Riferimento verticale



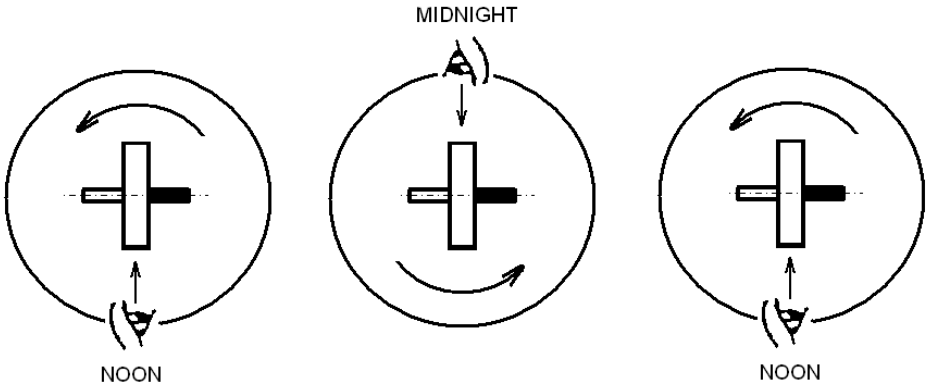
Riferimenti direzionale



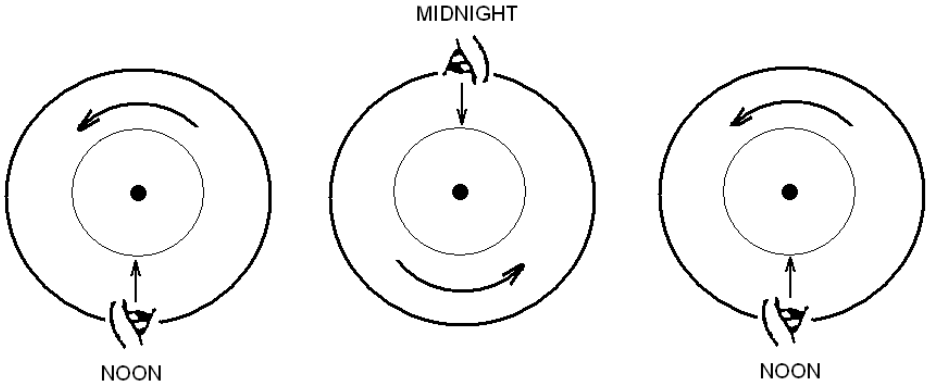
La terra come sistema di riferimento locale



Precessione apparente dovuta alla rotazione

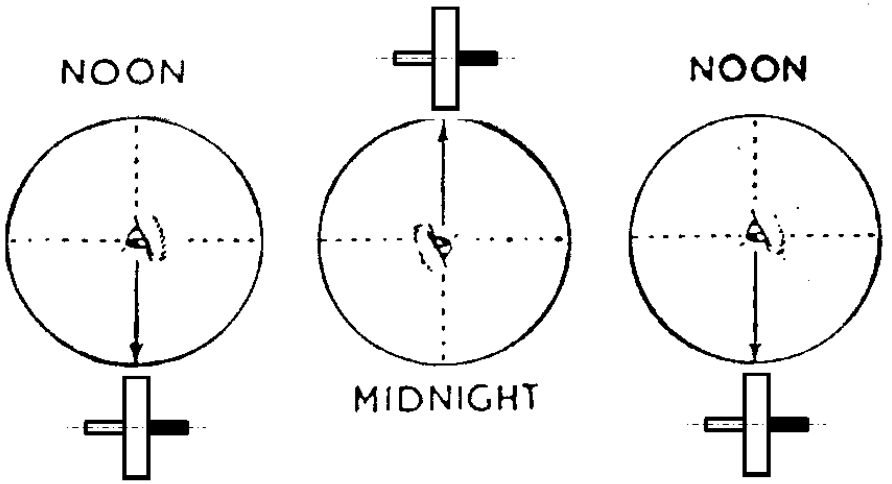


Osservatore al Polo Nord e giroscopio con asse di spin perpendicolare all'asse di rotazione terrestre

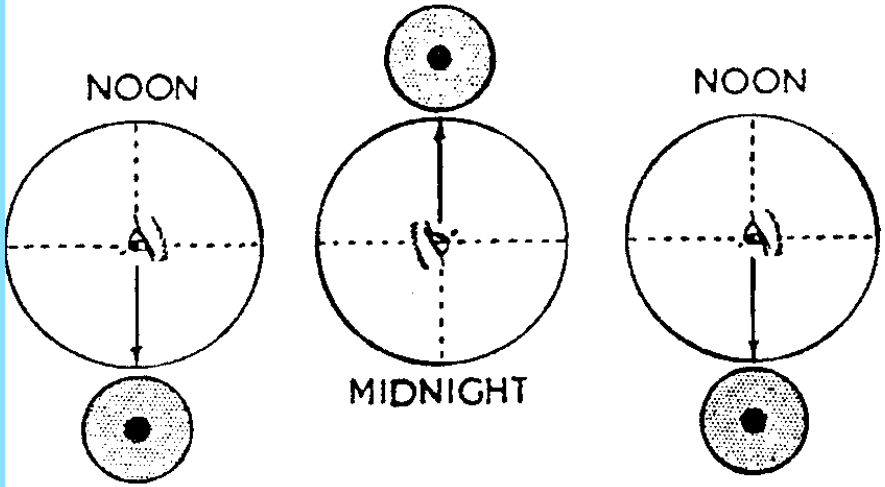


Osservatore al Polo Nord e giroscopio con asse di spin allineato con l'asse di rotazione terrestre

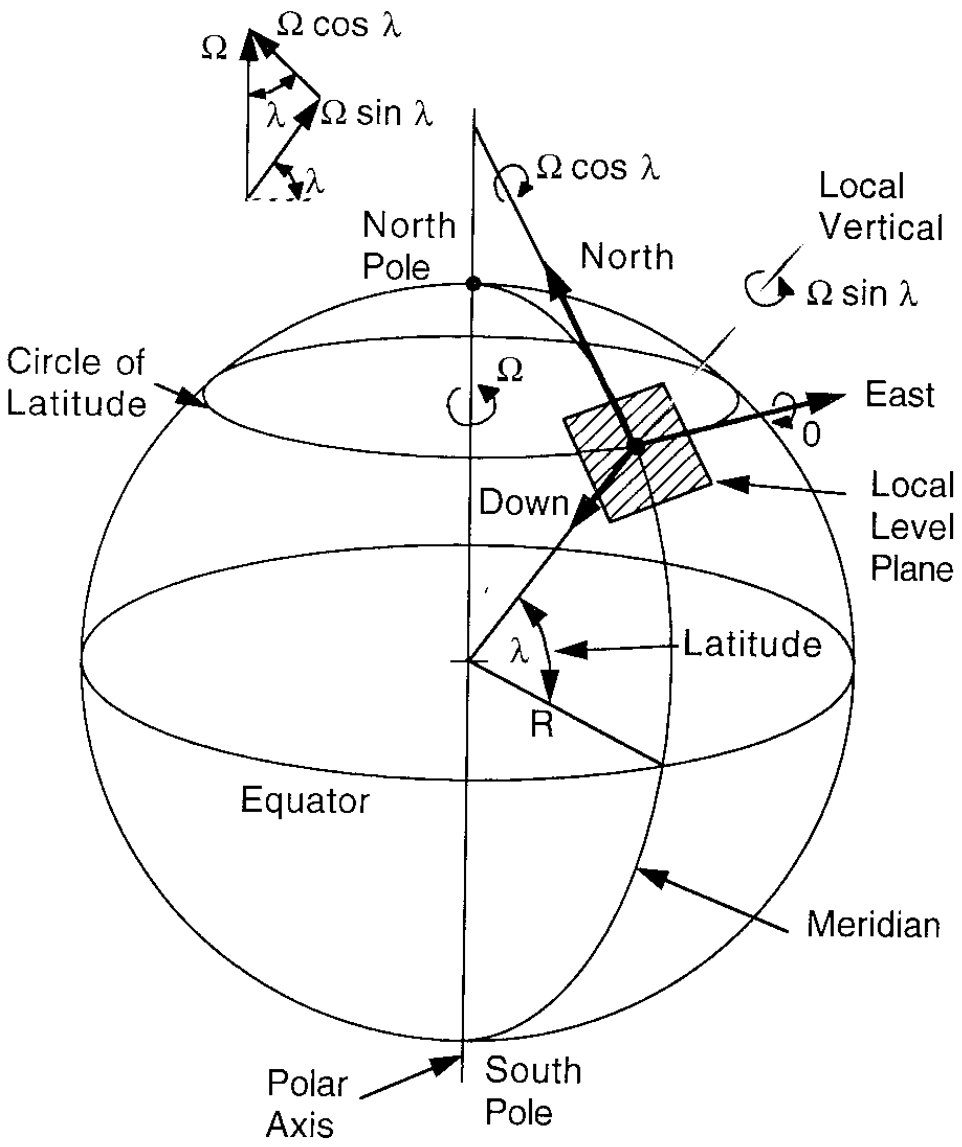
Precessione apparente dovuta alla rotazione



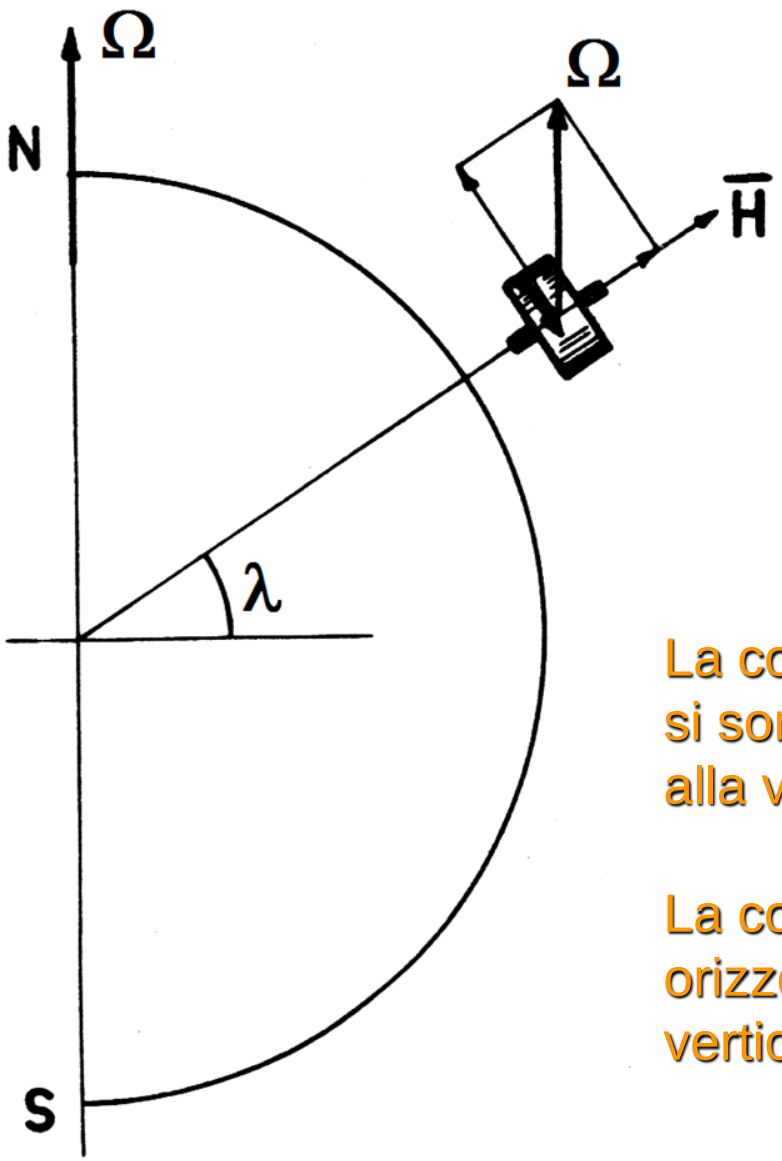
Osservatore all'equatore e giroscopio con asse di spin diretto E-W



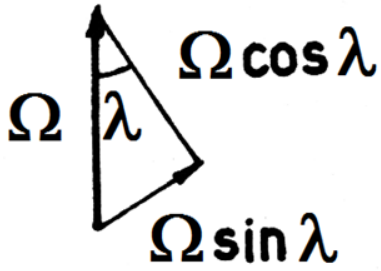
Osservatore all'equatore e giroscopio con asse di spin diretto N-S


Ω cos λ
Ω
λ
Ω sin λ
λ
Ω cos λ
North Pole
North
Local Vertical
Ω sin λ
Circle of Latitude
Ω
East
0
Down
Local Level Plane
λ
Latitude
R
Equator
Meridian
Polar Axis
South Pole

Giroscopio con asse parallelo alla verticale locale



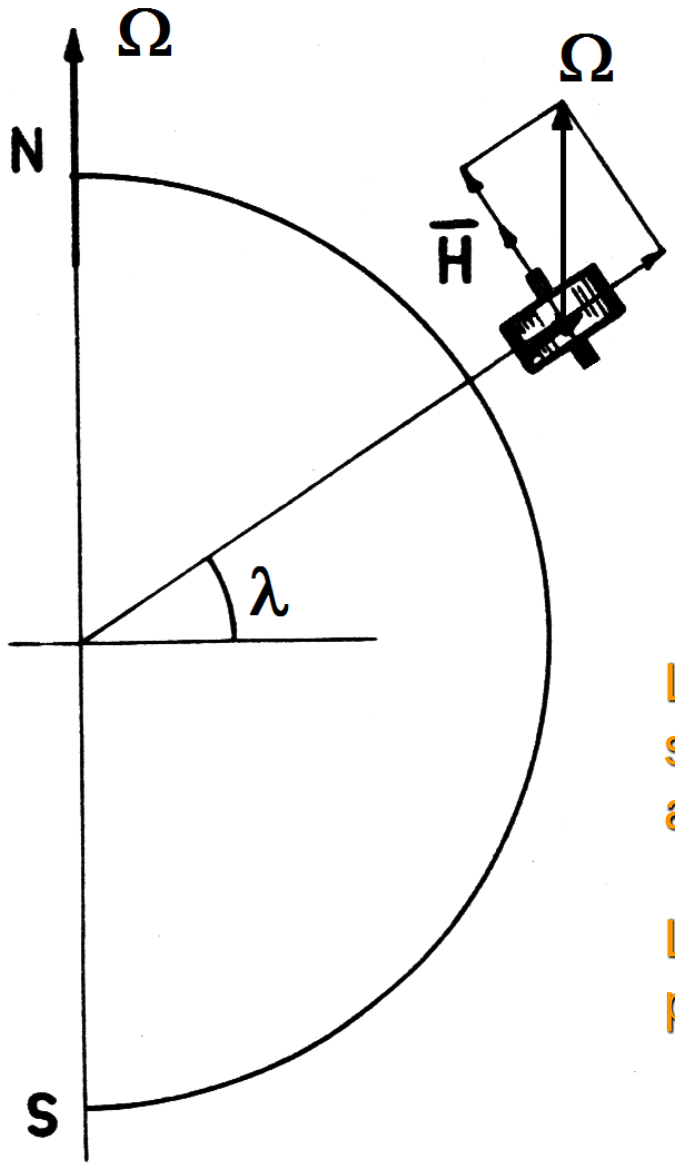
$\overline{H}$ = rigidità del giroscopio

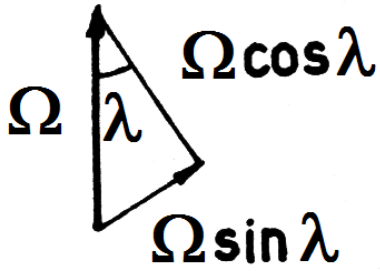


La componente verticale si somma algebricamente alla velocità di spin.

La componente orizzontale fa perdere la verticalità.

Giroscopio con asse tangente al meridiano locale

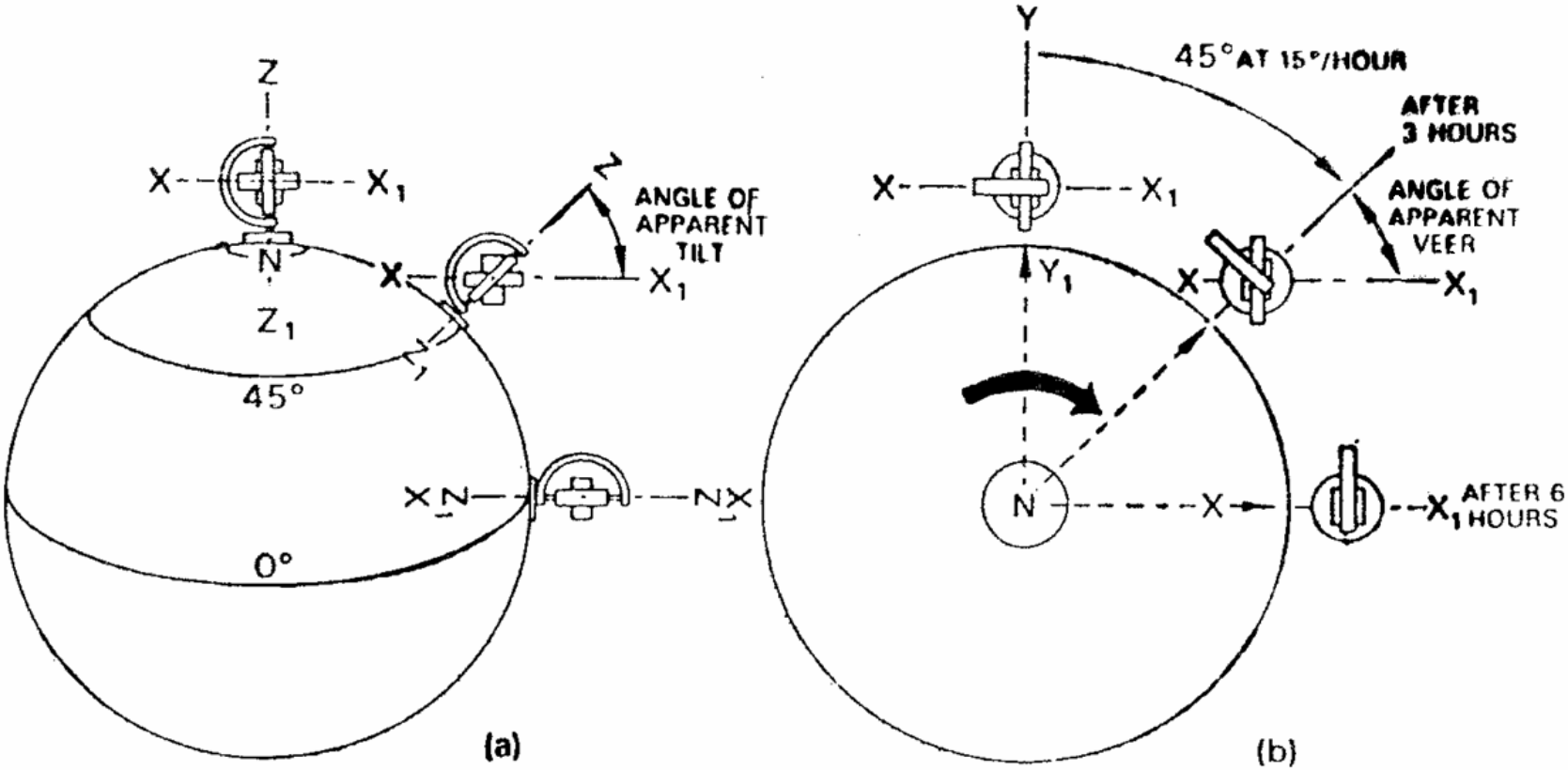




La componente orizzontale si somma algebricamente alla velocità di spin.

La componente verticale fa perdere la direzionalità.

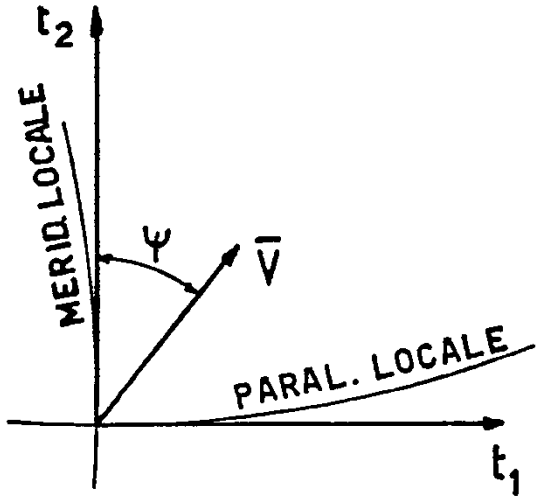
Precessione apparente dovuta al movimento



Effects of earth's rotation and curvature

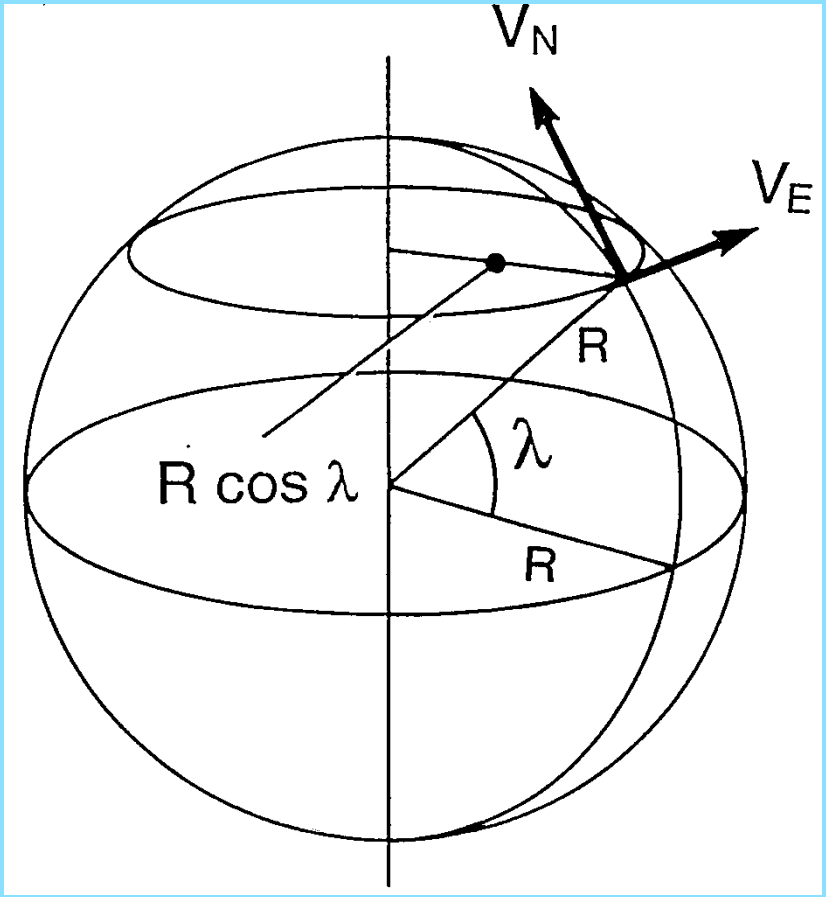
(*a*) Apparent tilt (*b*) Apparent veer

Precessione apparente dovuta al movimento

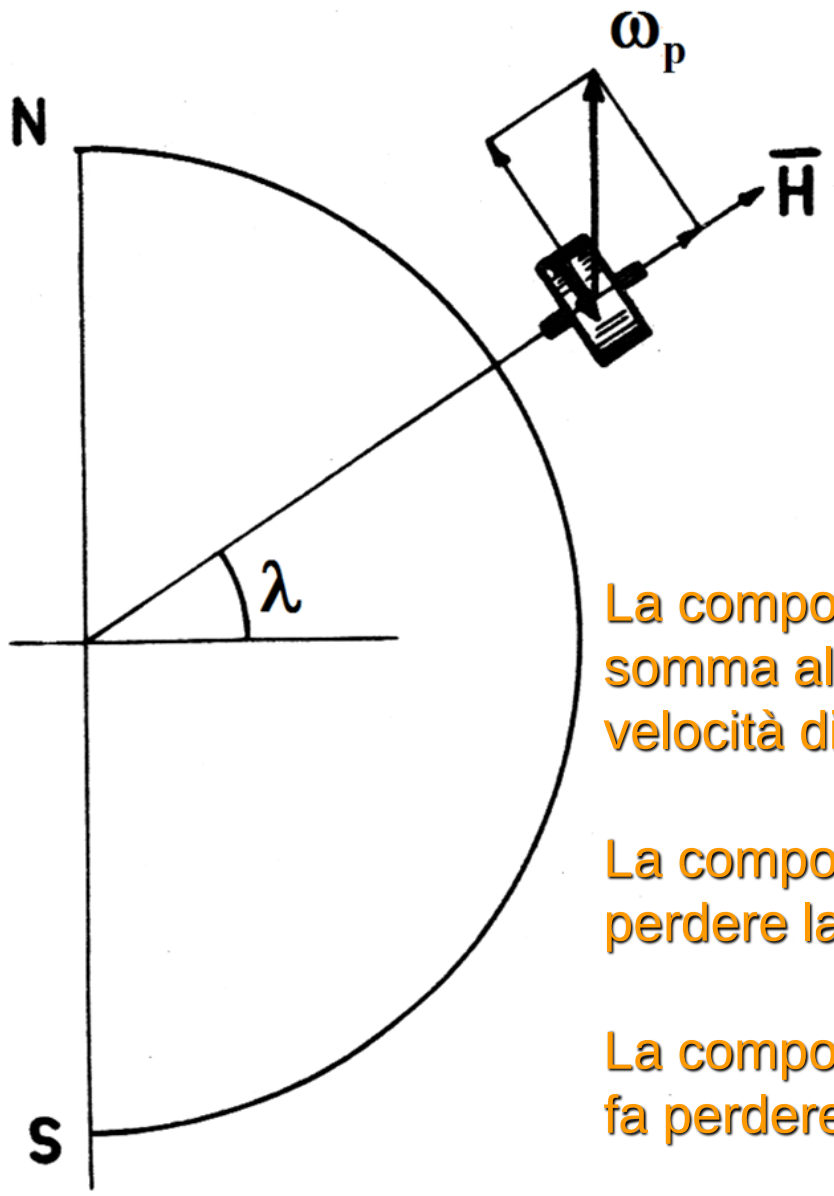


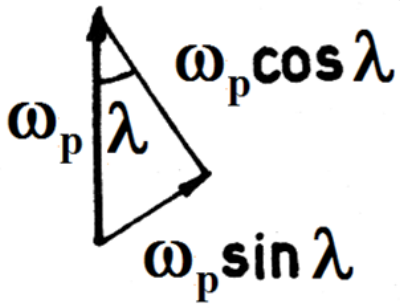
$$\omega_p = \frac{V_E}{R\cos\lambda} = \frac{V\,\mathrm{sen}\,\psi}{R\cos\lambda}$$

$$\omega_p^* = \frac{V_N}{R} = \frac{V\cos\psi}{R}$$



Giroscopio con asse parallelo alla verticale locale



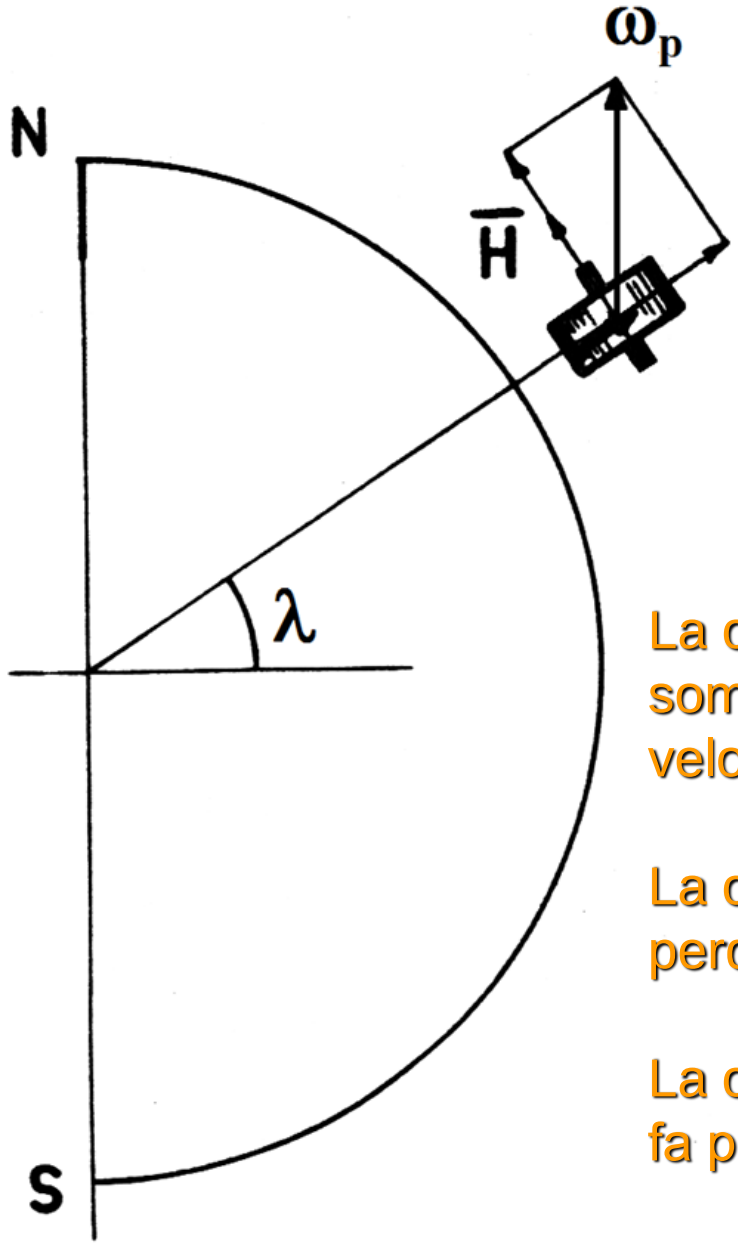


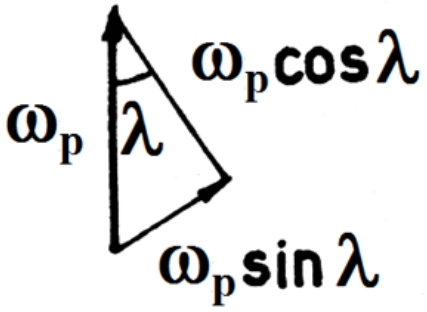
La componente verticale si somma algebricamente alla velocità di spin.

La componente orizzontale fa perdere la verticalità.

La componente perpendicolare ω_p^* fa perdere la verticalità.

Giroscopio con asse tangente al meridiano locale





La componente orizzontale si somma algebricamente alla velocità di spin.

La componente verticale fa perdere la direzionalità.

La componente perpendicolare ω_p^* fa perdere l'orizzontalità.

Precessione apparente complessiva

$$\omega_p = (\Omega \pm \frac{\mathbf{V}\text{sen}\,\psi}{\mathbf{R}\cos\lambda})\text{sen}\,\lambda$$

$$\omega_p^* = \frac{\mathbf{V}\cos\psi}{\mathbf{R}}$$