El simulador...!

Astronomy Education at the University of Nebraska-Lincoln

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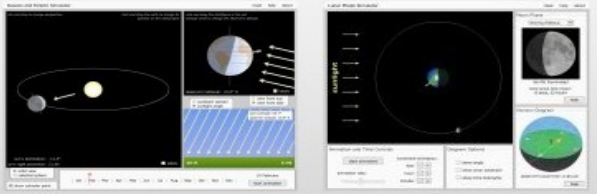
The Nebraska Astronomy Applet Project

interactive, simulator-based online laboratories for introductory astronomy



ClassAction

dynamic think-pair-share questions to engage students in the astronomy classroom

RECENT NEWS

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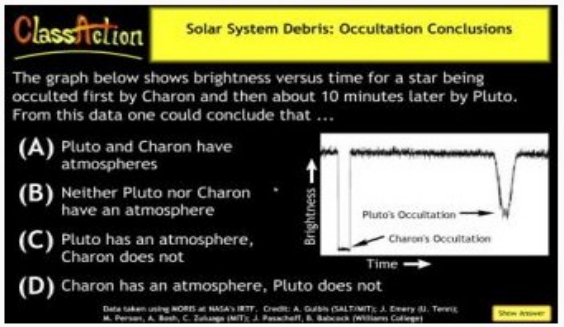
ClassAction Debris Module Update

The ClassAction debris module is undergoing a complete overhaul. Things will likely be in a state of flux for a while.



Wednesday, May 29, 2013 — Kevin

Update on Benecchi Presentations

CURRICULUM PROJECTS

ClassAction
NAAP Labs
Interactives
Virtual Labs

RESOURCES

Astronomy Simulations List
ClassAction Questions List
Miscellaneous

LOCAL PROJECTS

Educator Workshops
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INFORMATION

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Kevin Lee's Homepage

RECENT POSTS

ClassAction Debris Module

http://astro.unl.edu/

Movimientos terrestres

Rotación


Vista desde el
Polo Norte, la
Tierra gira en
sentido antihorario
Inclinación del eje terrestre
23,5°

mmm, y cómo le explico a mi abuelita que la Tierra da vueltas como un trompo?

- Coriolisis:
  - http://www.youtube.com/watch?NR=1&feature=fvwp&v=Pb69HENUZs8
  - http://www.youtube.com/watch?v=mcPs_OdQOYU
- Péndulo Foucault:
  - http://www.youtube.com/watch?v=YWWRZXqoJjM
- Achatamiento de la Tierra:
  - http://www.youtube.com/watch?v=mxppeuUHla4
  - Radio Polar: ~ 6356.8 km
  - Radio Ecuatorial: ~ 6378.2 km

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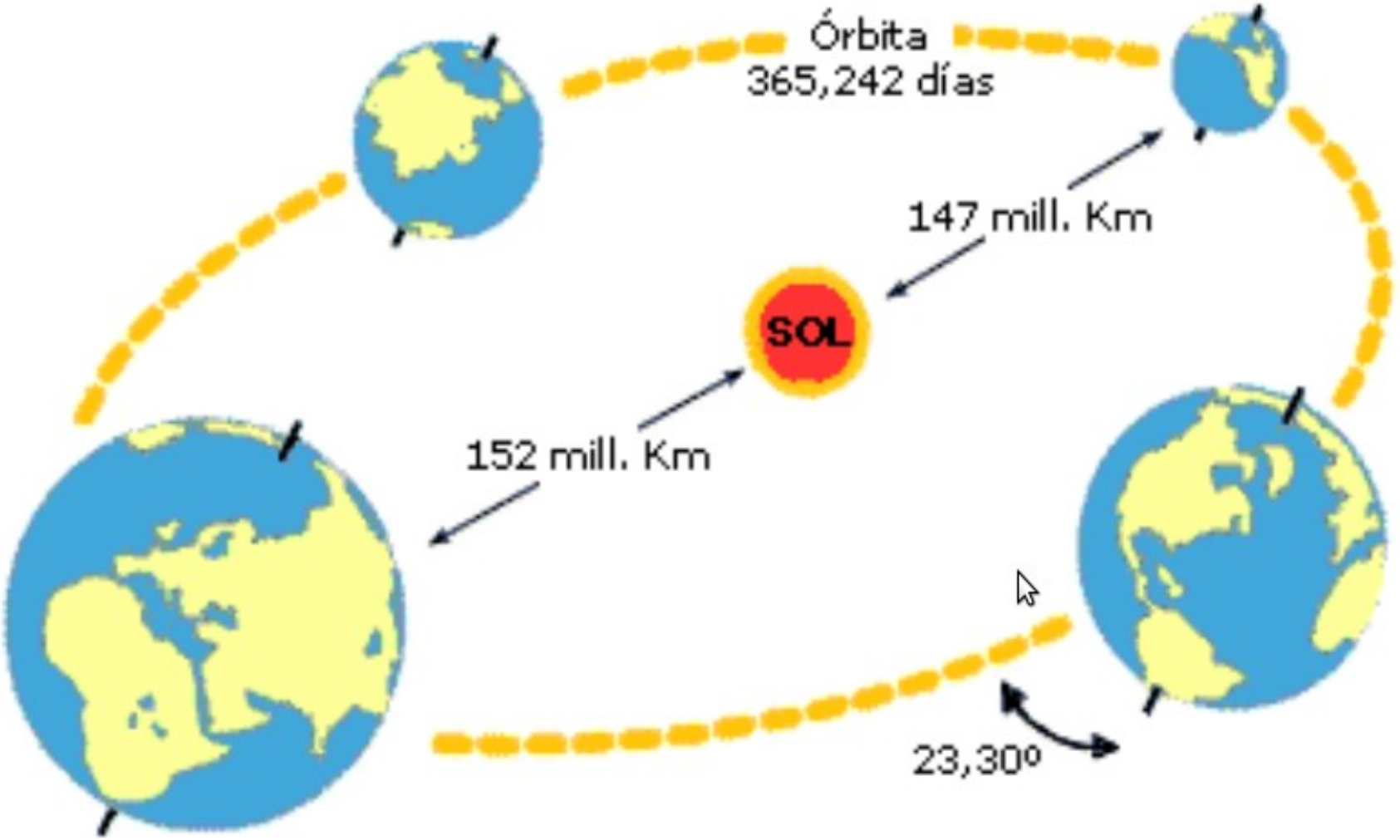
Traslación



Aja, y ¿cómo se que de verdad nos movemos alredor del Sol?

- Aberración de la luz
  - http://www.iac.es/cosmoeduca/r


Fig. 1

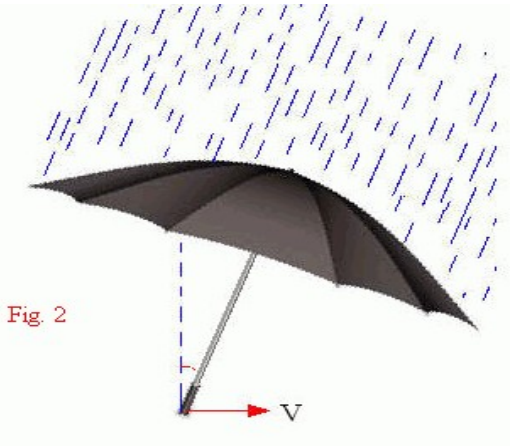
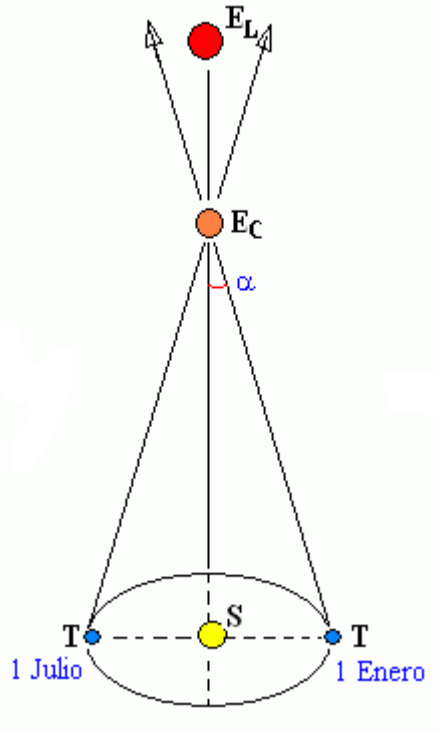
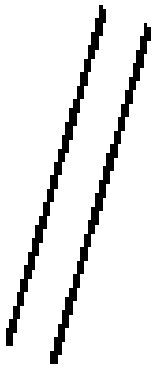


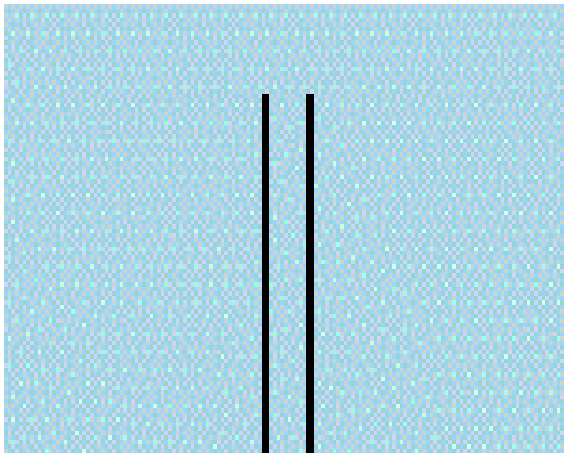
Fig. 2

- Paralaje estelar

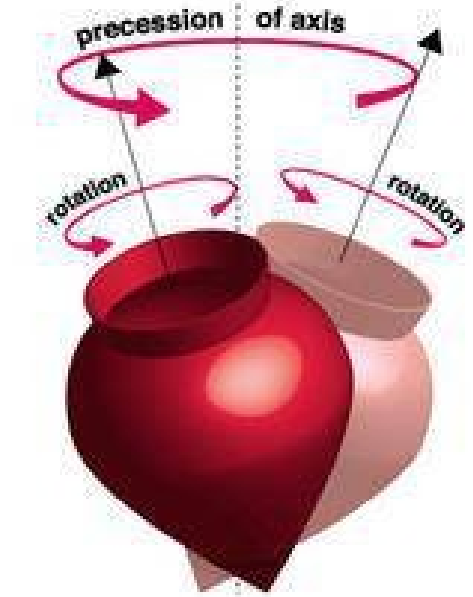


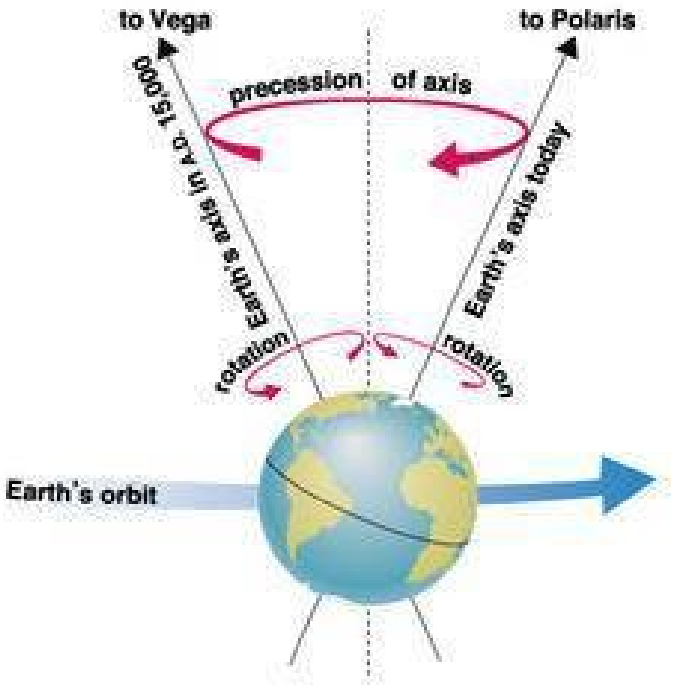
- Efecto Doppler



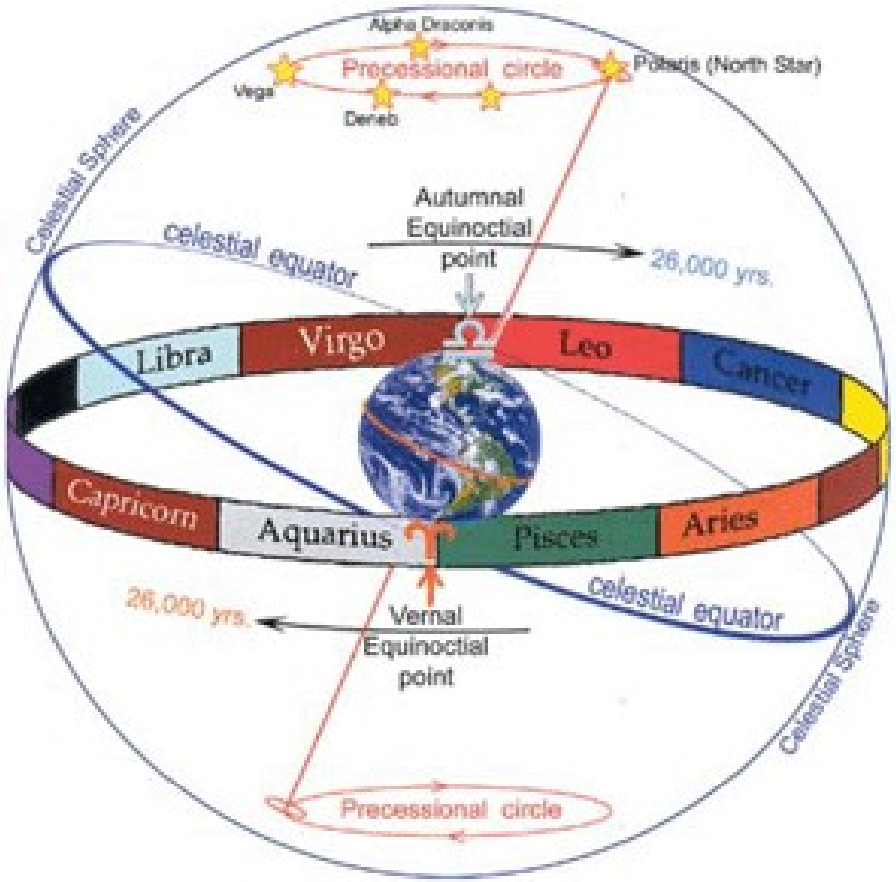


Precesión y Nutación

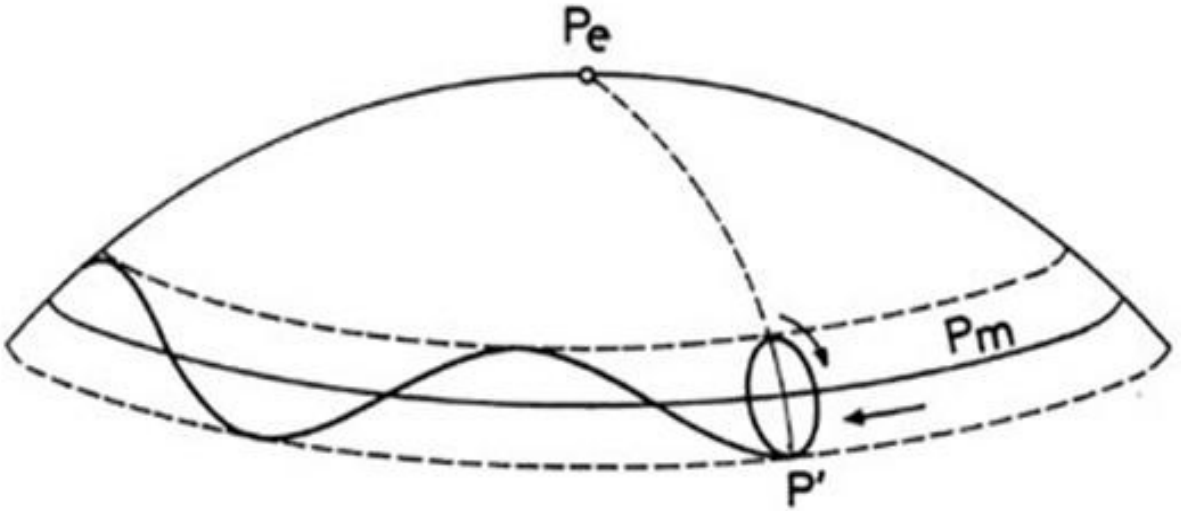




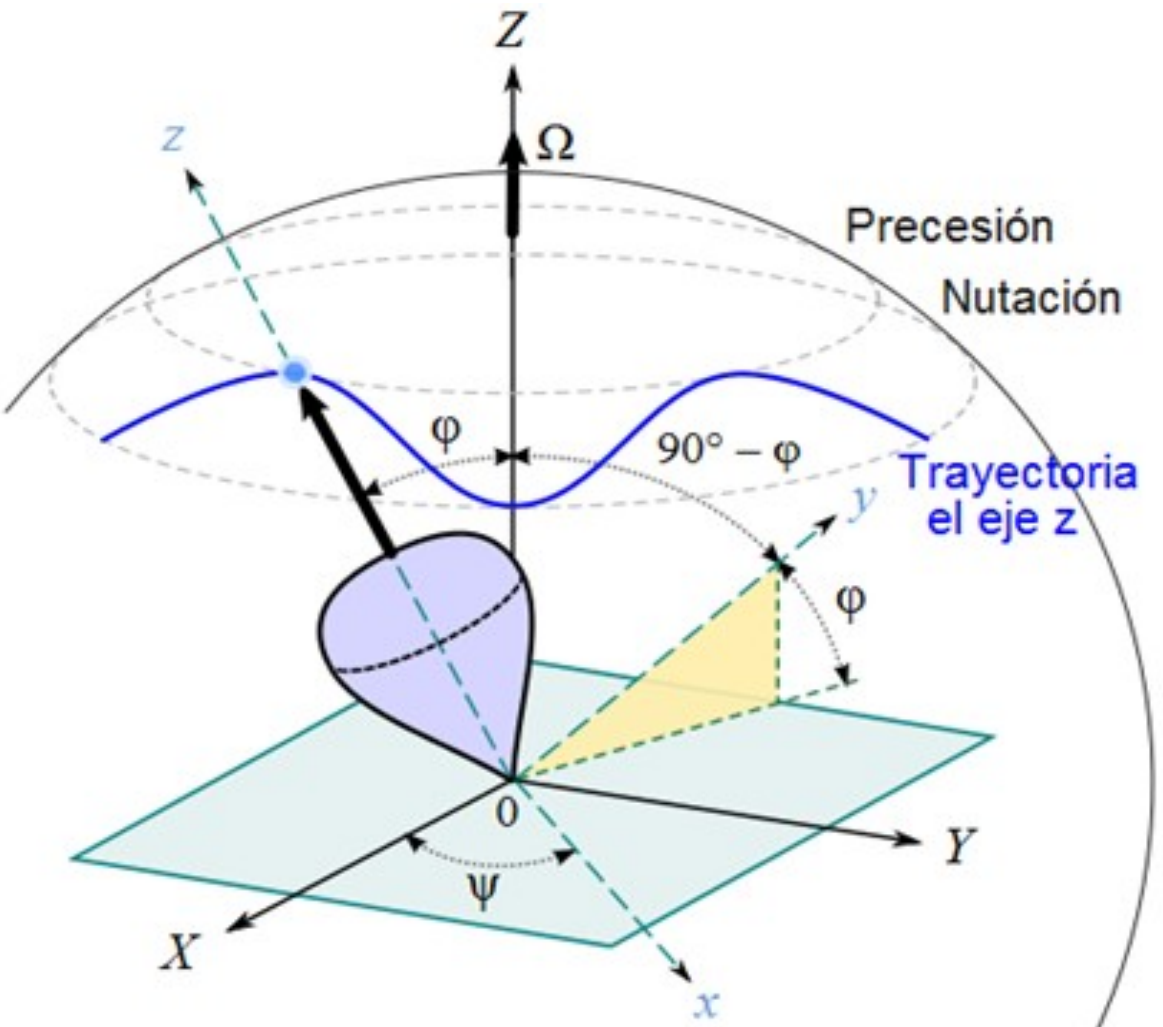
- Hiparco 135 A.C.
- Luna y Sol
- ~26000 años

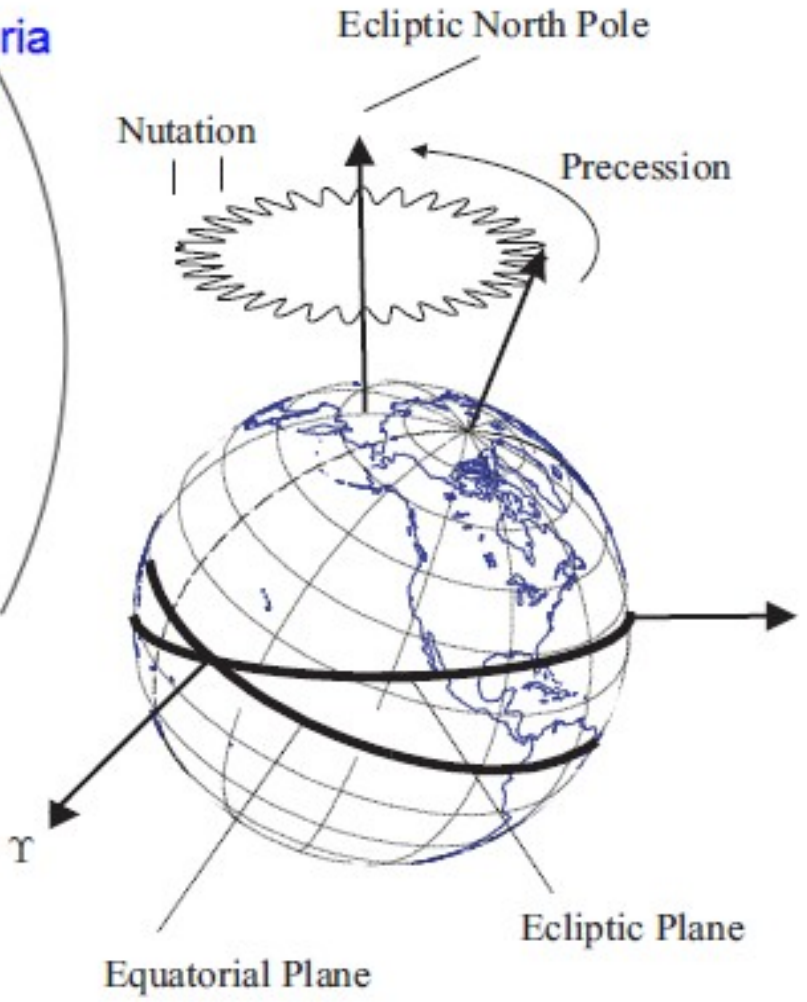


- 360º/26000 ~ 50" por año
- Precesión de equinoccios
- Nutación: Periodo de 18.6 años
- 9" de arco

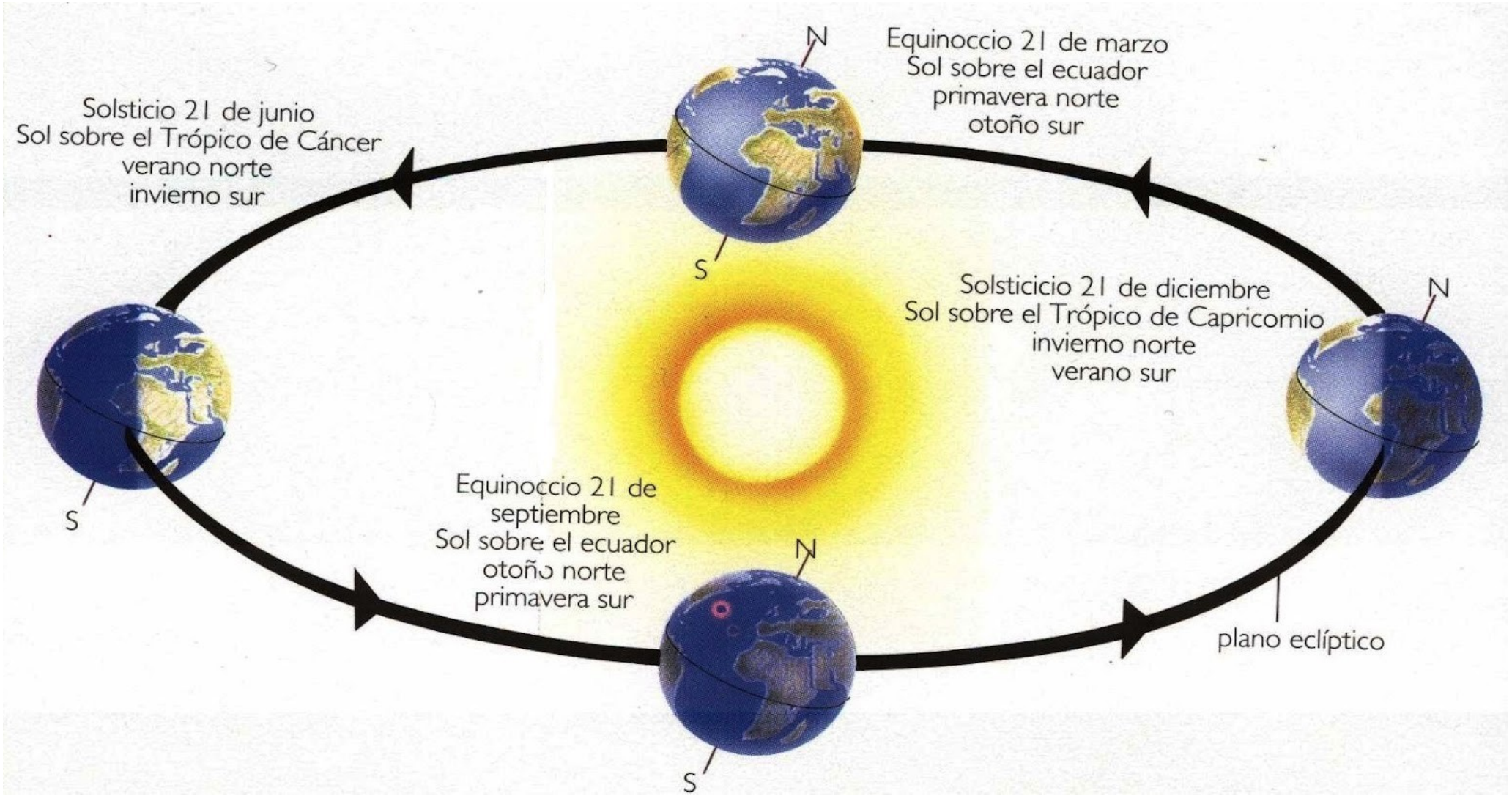


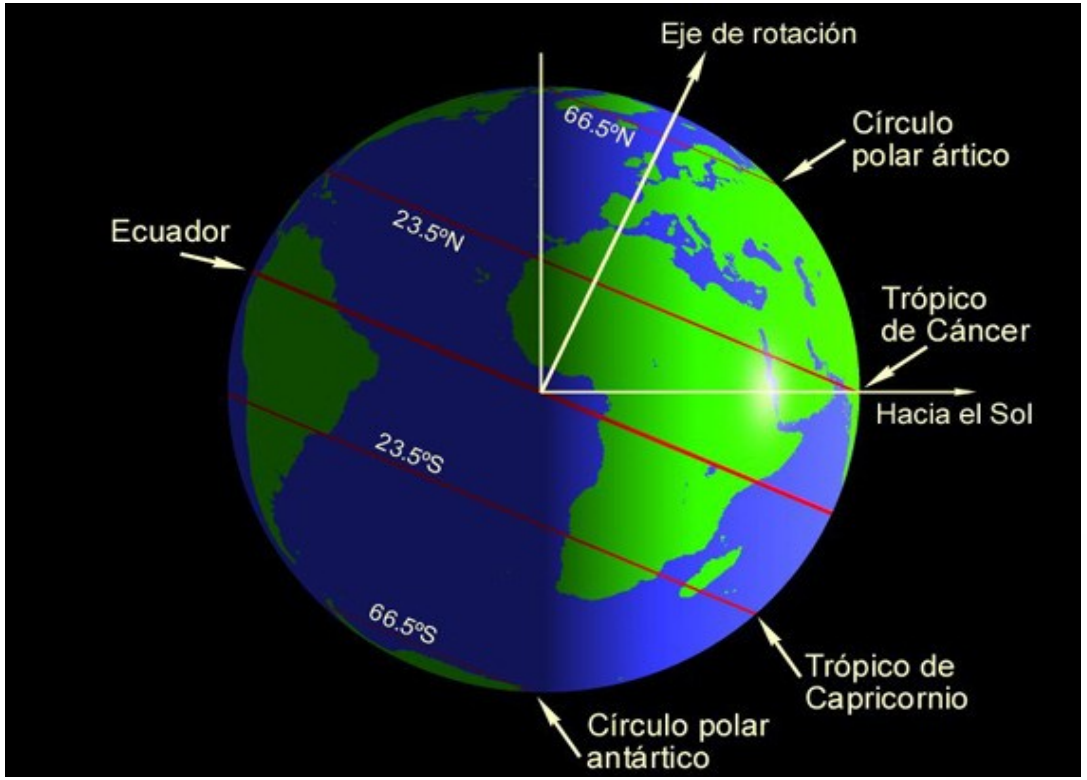
http://www.youtube.com/watch?v=eKf0cUhg1m0

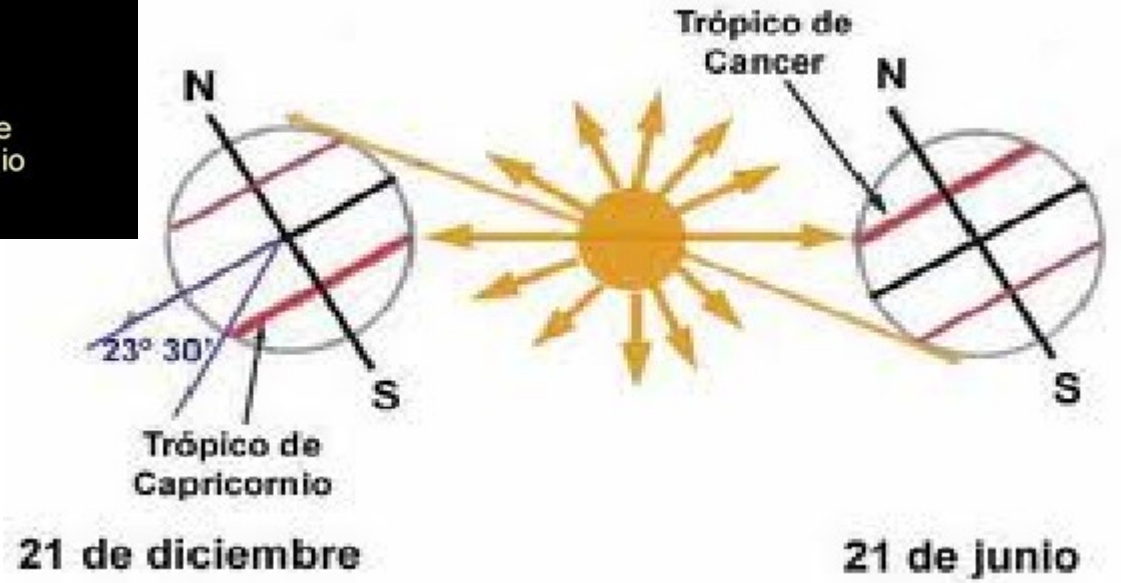

Z
z
Ω
Precesión
Nutación
φ
90° – φ
Trayectoria
el eje z
y
φ
0
Y
ψ
X
x


Ecliptic North Pole
Nutation
Precession
ϒ
Ecliptic Plane
Equatorial Plane

Estaciones

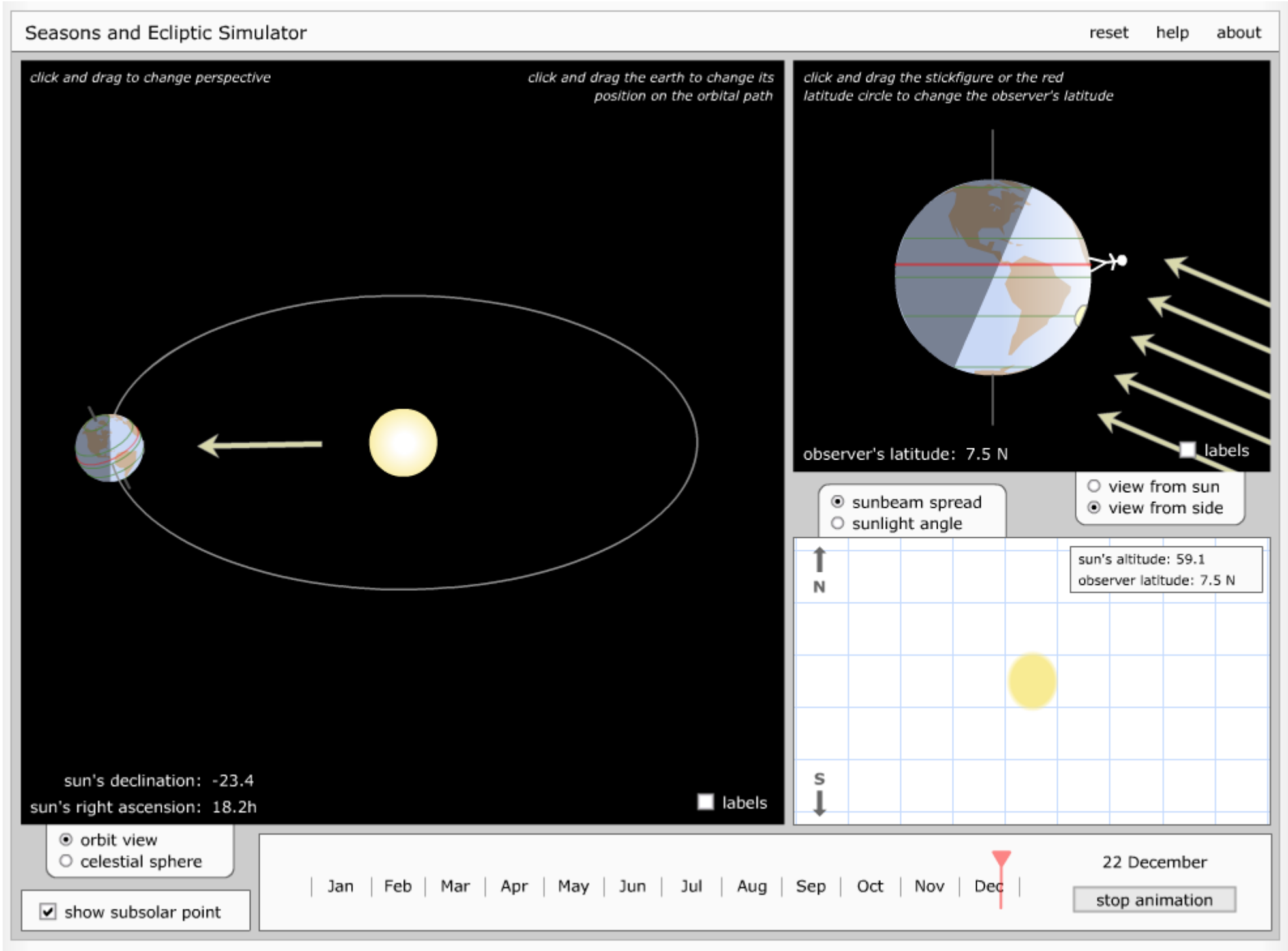

N
Equinoccio 21 de marzo
Sol sobre el ecuador
primavera norte
otoño sur
Solsticio 21 de junio
Sol sobre el Trópico de Cáncer
verano norte
invierno sur
S
Solsticicio 21 de diciembre
Sol sobre el Trópico de Capricornio
invierno norte
verano sur
N
S
Equinoccio 21 de
septiembre
Sol sobre el ecuador
otoño norte
primavera sur
N
S
plano eclíptico





http://www.youtube.com/watch?v=gsZrTYeW0Tw

http://www.youtube.com/watch?v=WLRA87TKXLM



http://astro.unl.edu/naap/motion1/animations/seasons_ecliptic.html