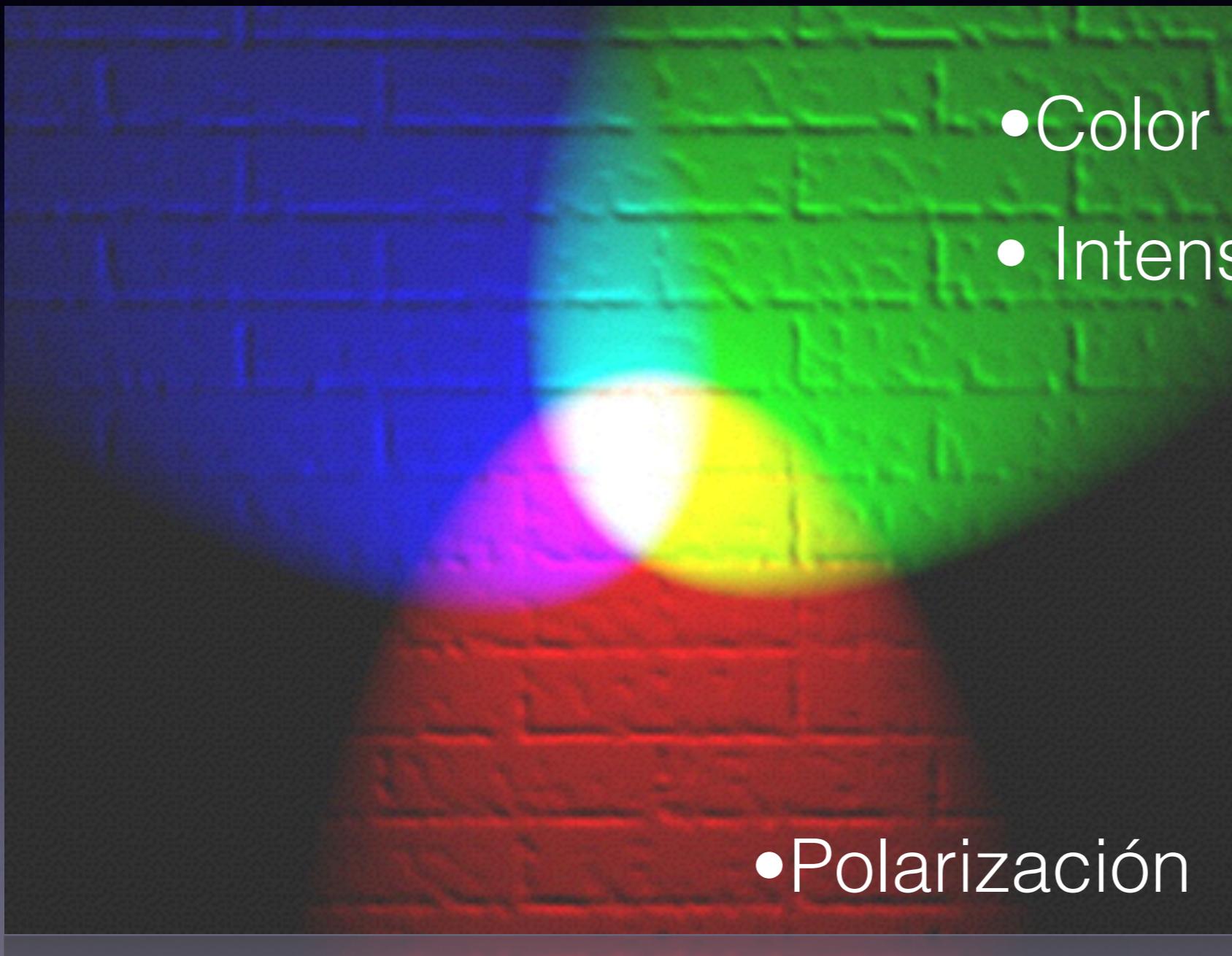


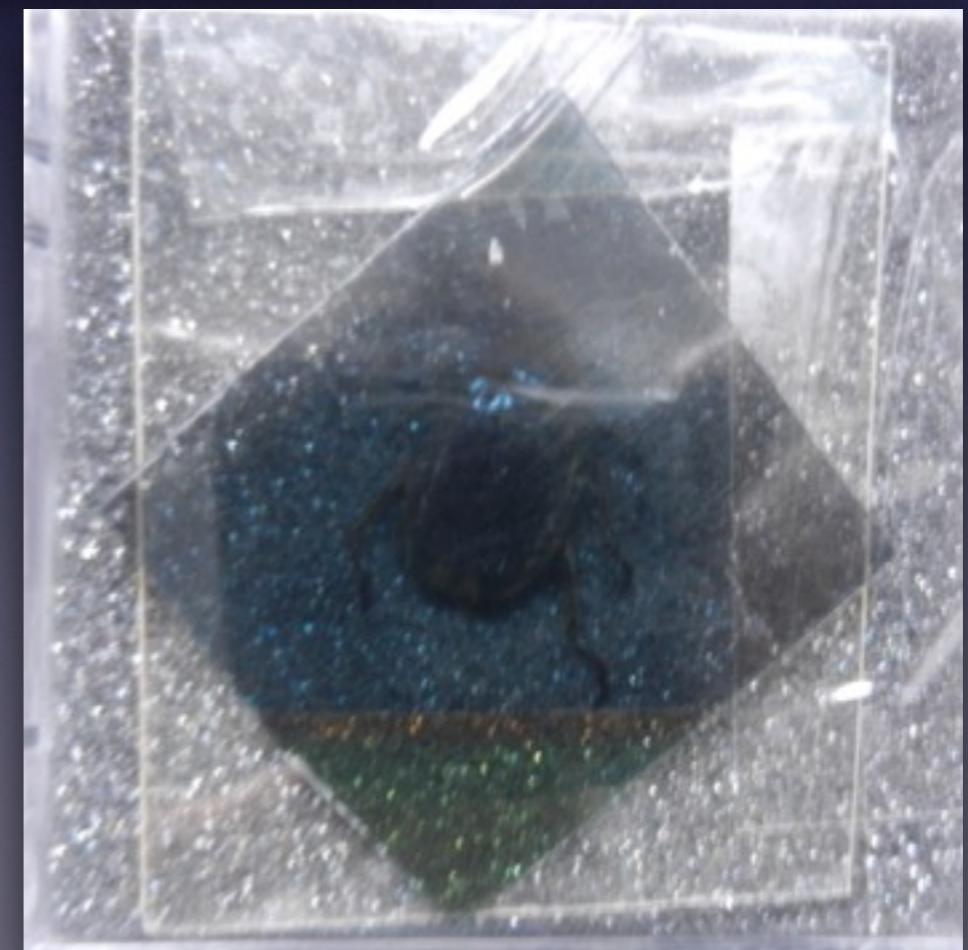
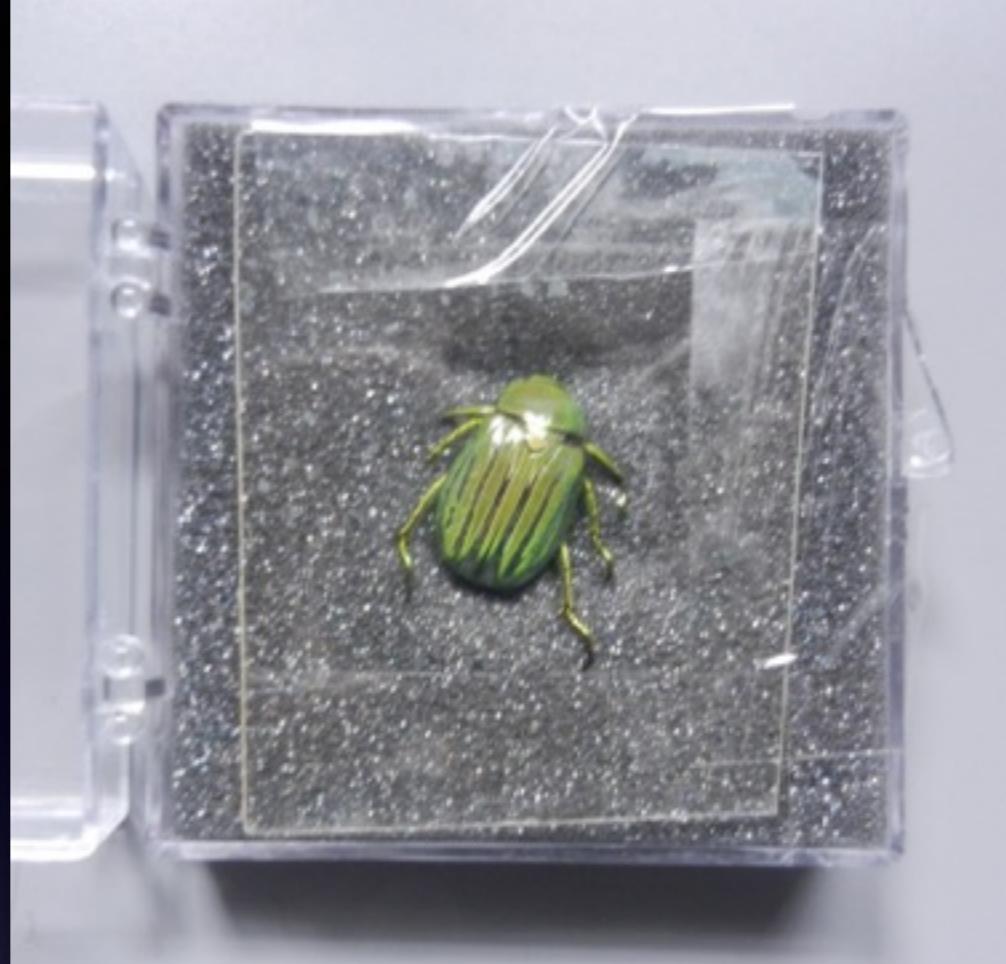
El Universo Polarizado

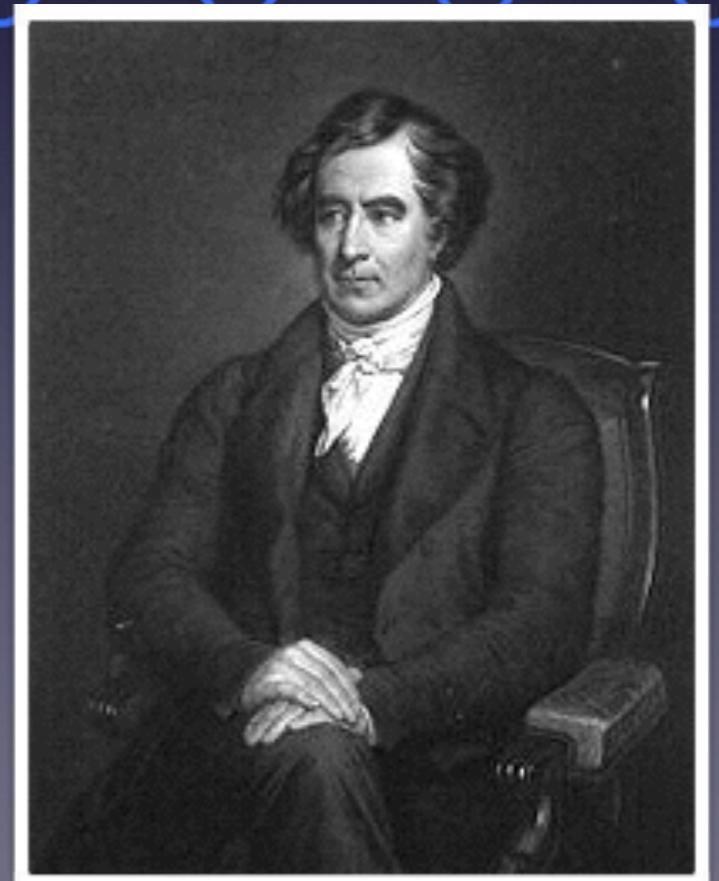
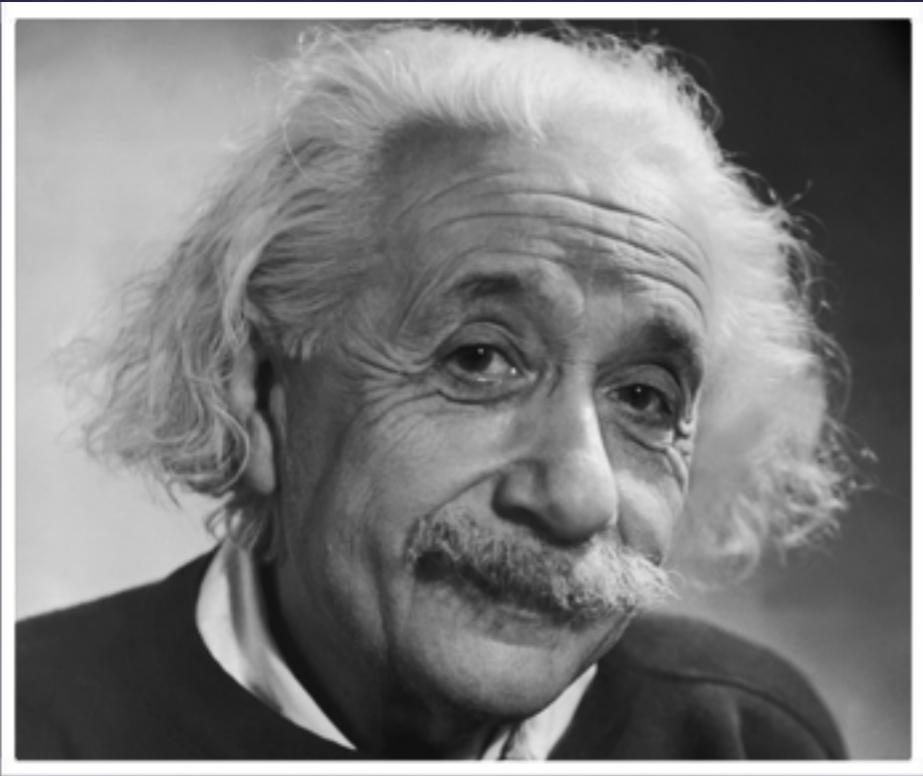
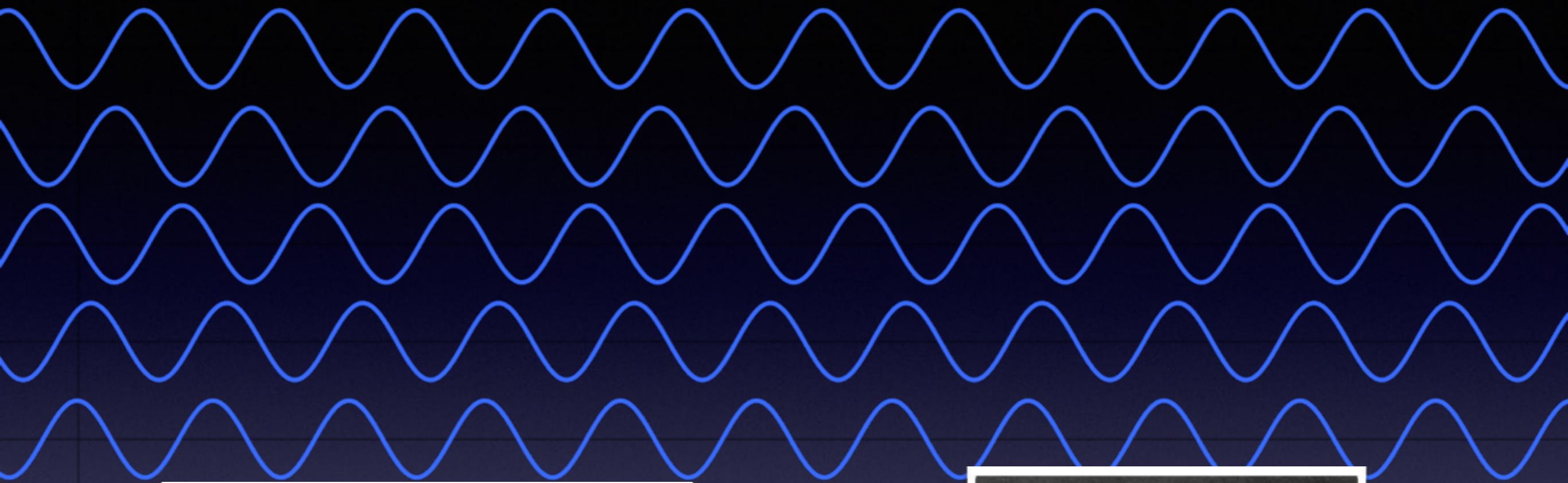
L'Univers Polarisé

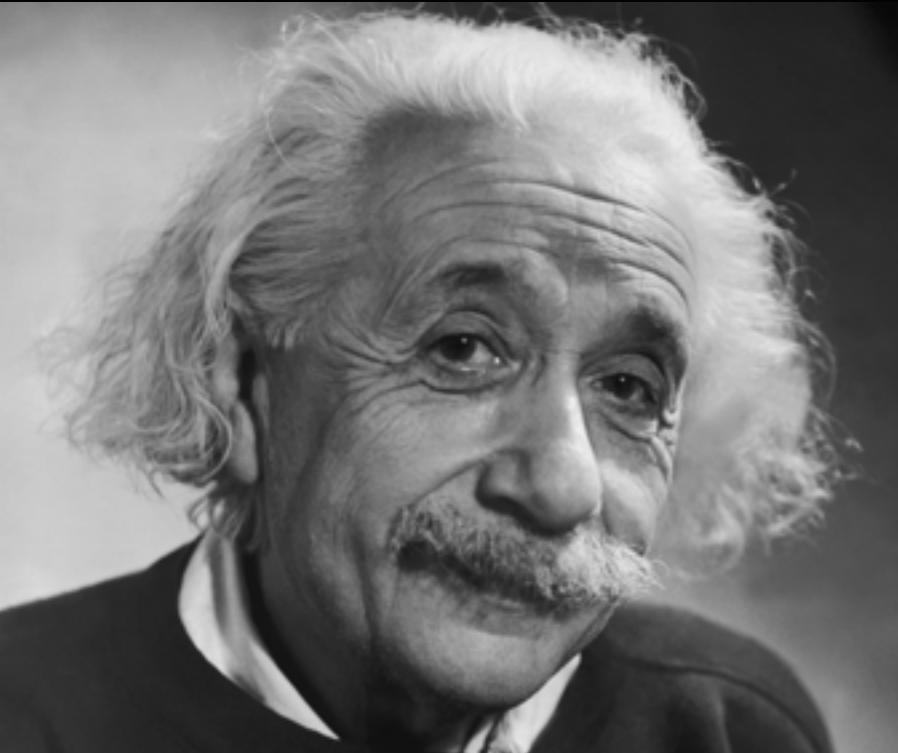
Luz - Lumière



- Color - couleur
- Intensidad - Intensité
- Polarización - Polarisation

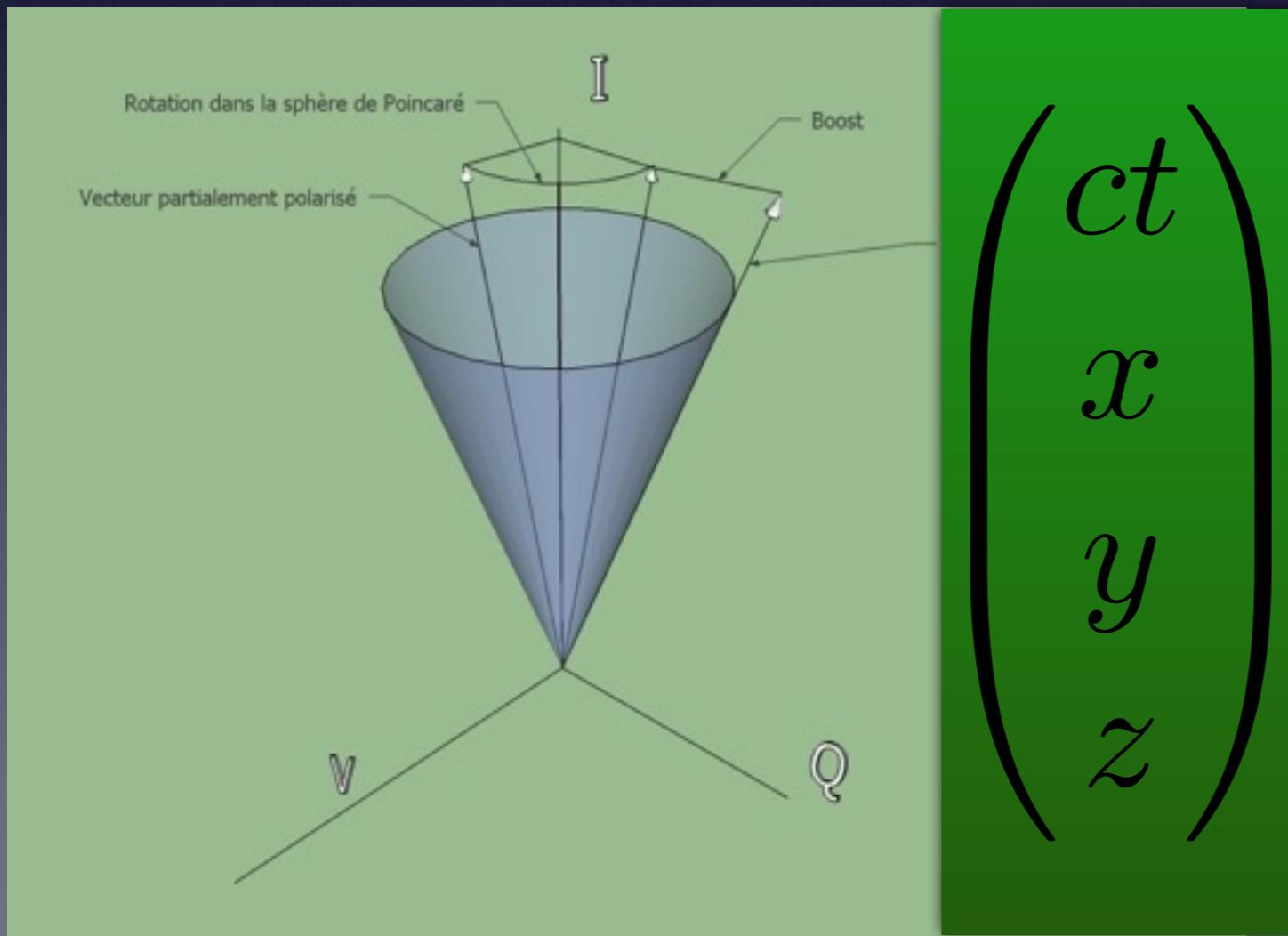






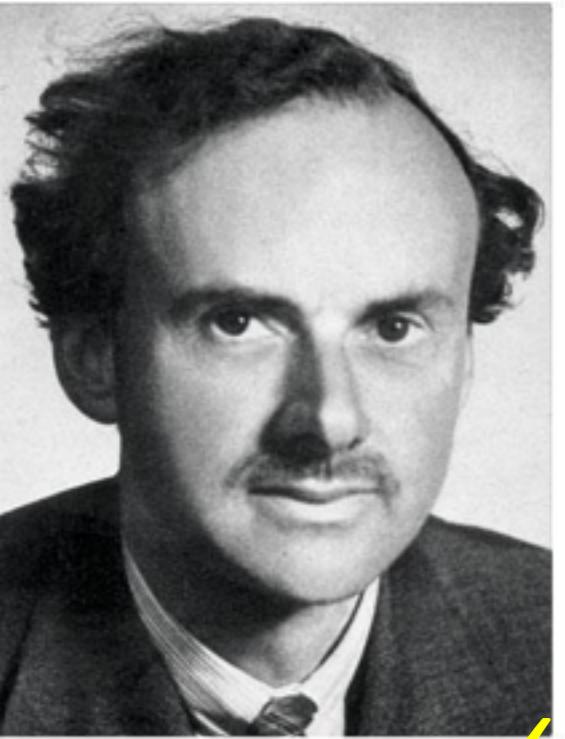
Espacio - tiempo = 1 sola cosa

Espace - temps = 1 seule chose



Espacio hiperbólico
de Minkowsky

Espace hyperbolique
de Minkowsky



$$\begin{pmatrix} ct \\ x \\ y \\ z \end{pmatrix} \equiv \left[\begin{pmatrix} E_x \\ E_y e^{i\delta} \end{pmatrix} \oplus \begin{pmatrix} E_x \\ E_y e^{-i\delta} \end{pmatrix} \right]^2$$



Luz polariza, luz no polarizada

lumière polarisée, lumière non polarisée



Luz polariza, luz no polarizada

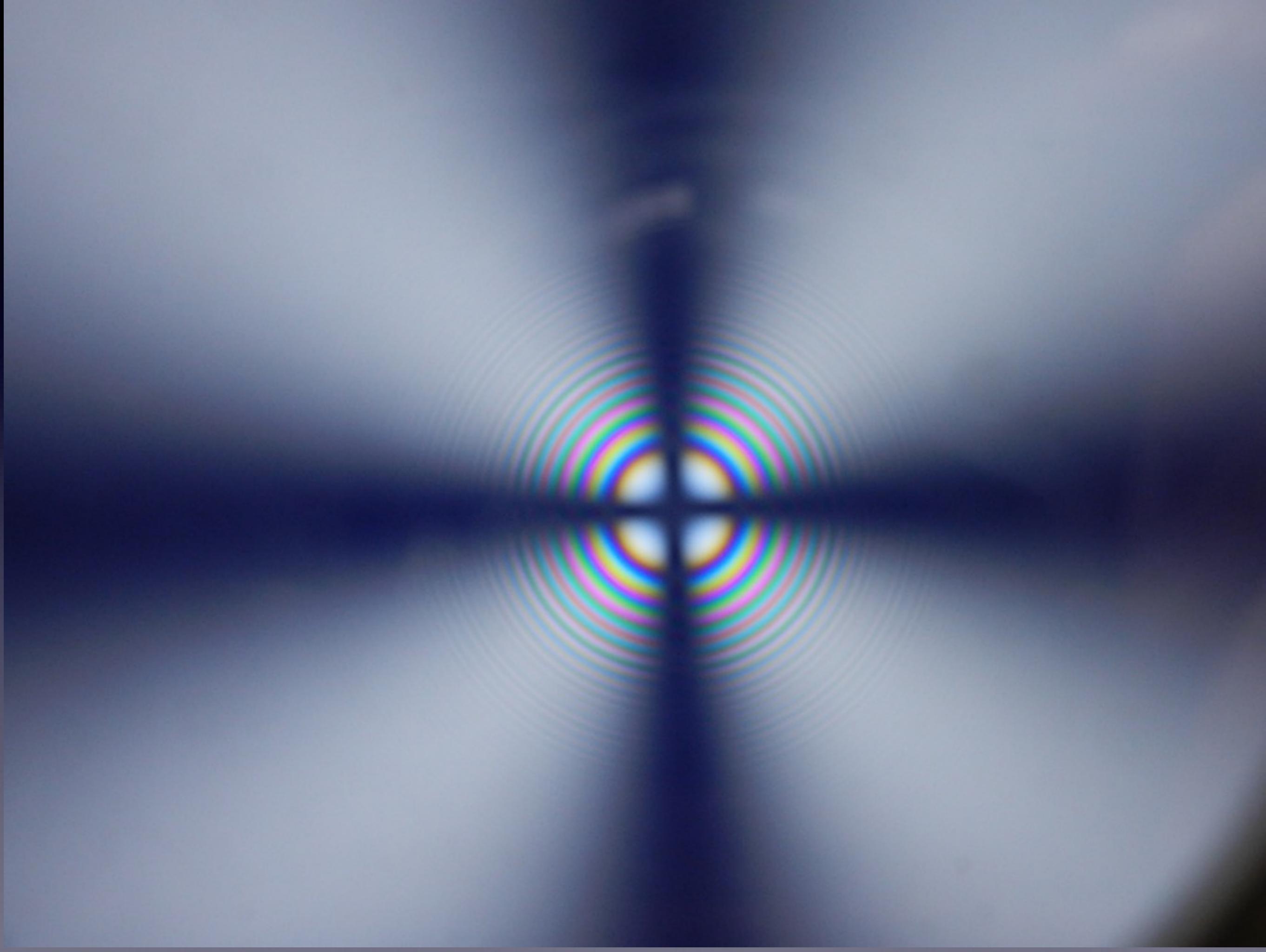
lumière polarisée, lumière non polarisée



Polarización = Rotura de simetría

Polarisation = Brisure de symétrie

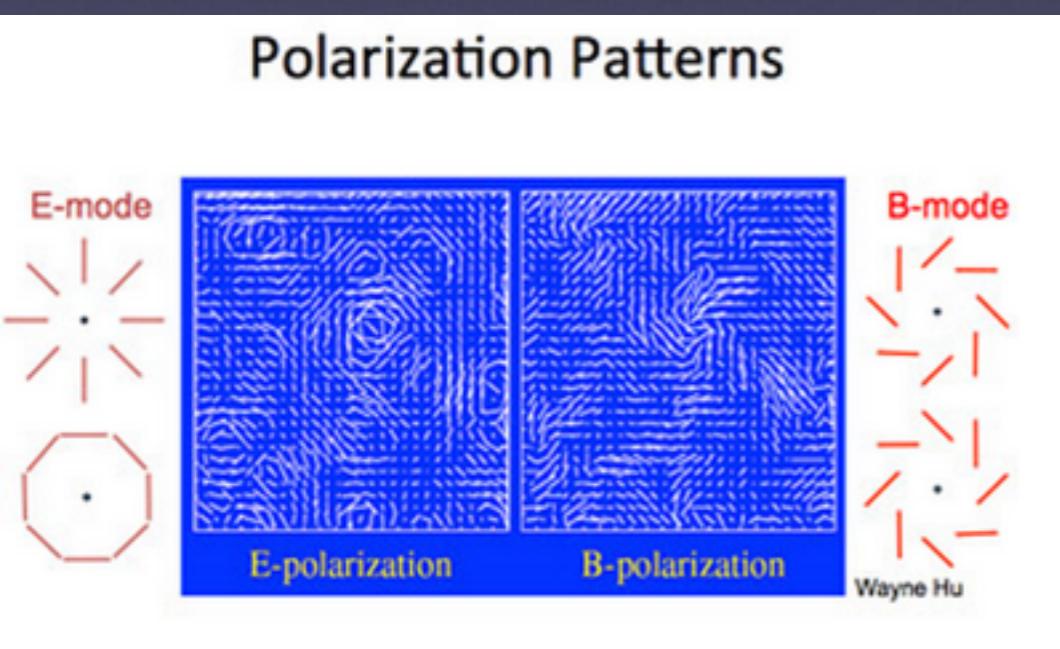
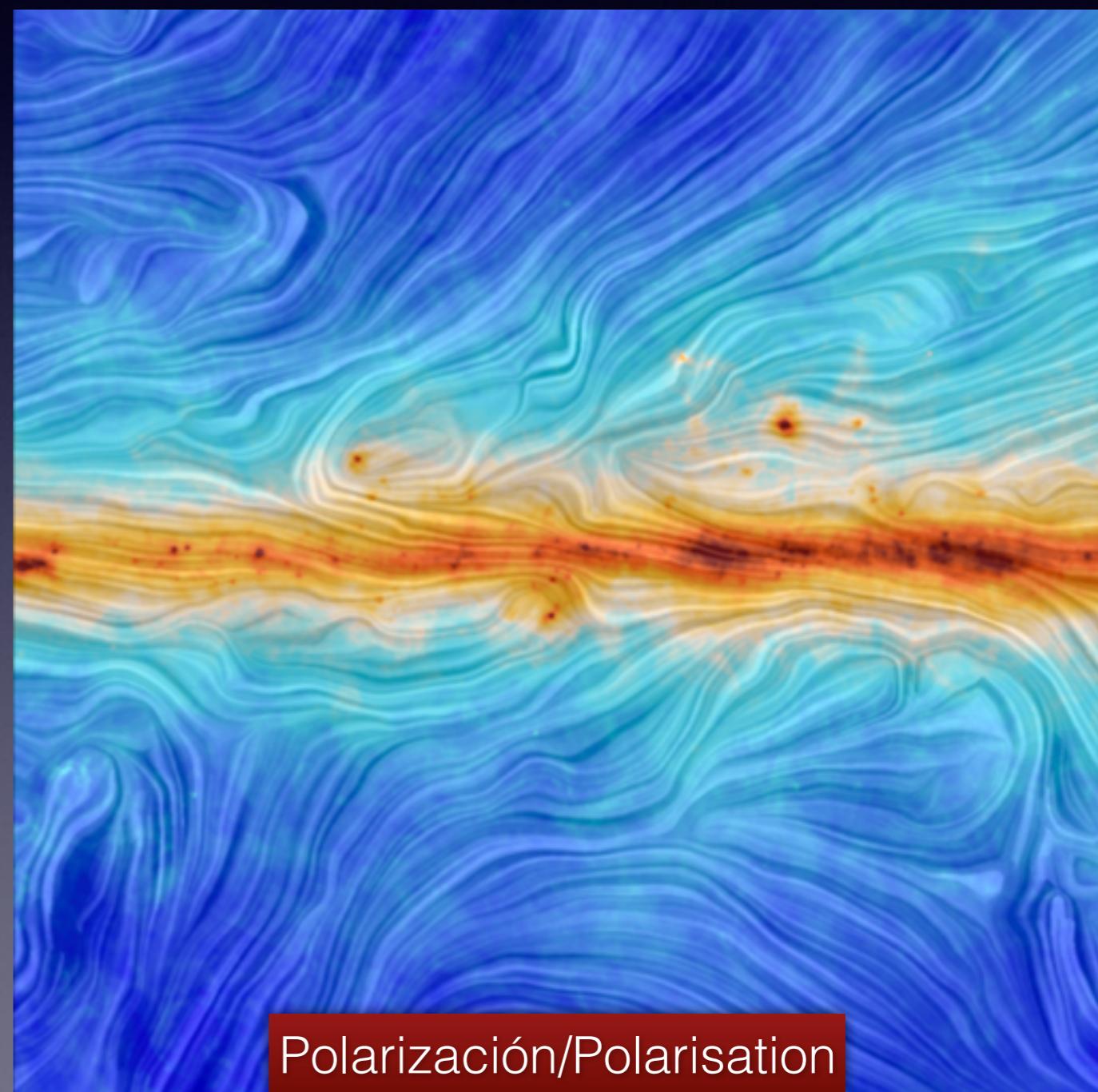
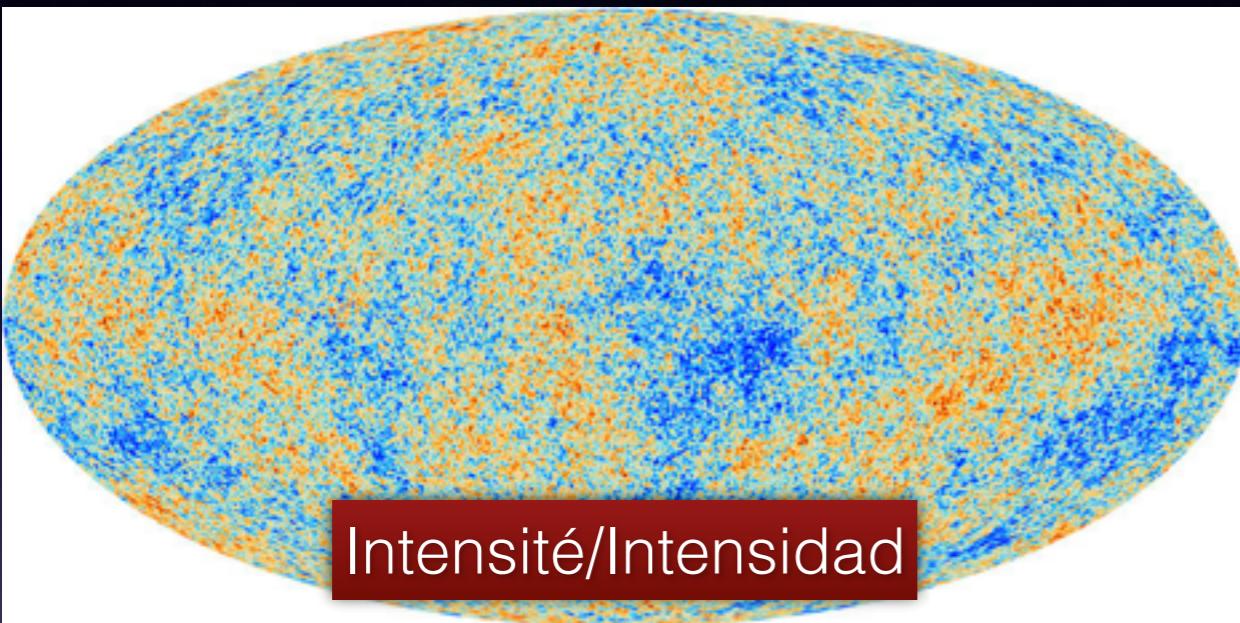
La luz prefiere una sola dirección
La lumière préfère une seule direction



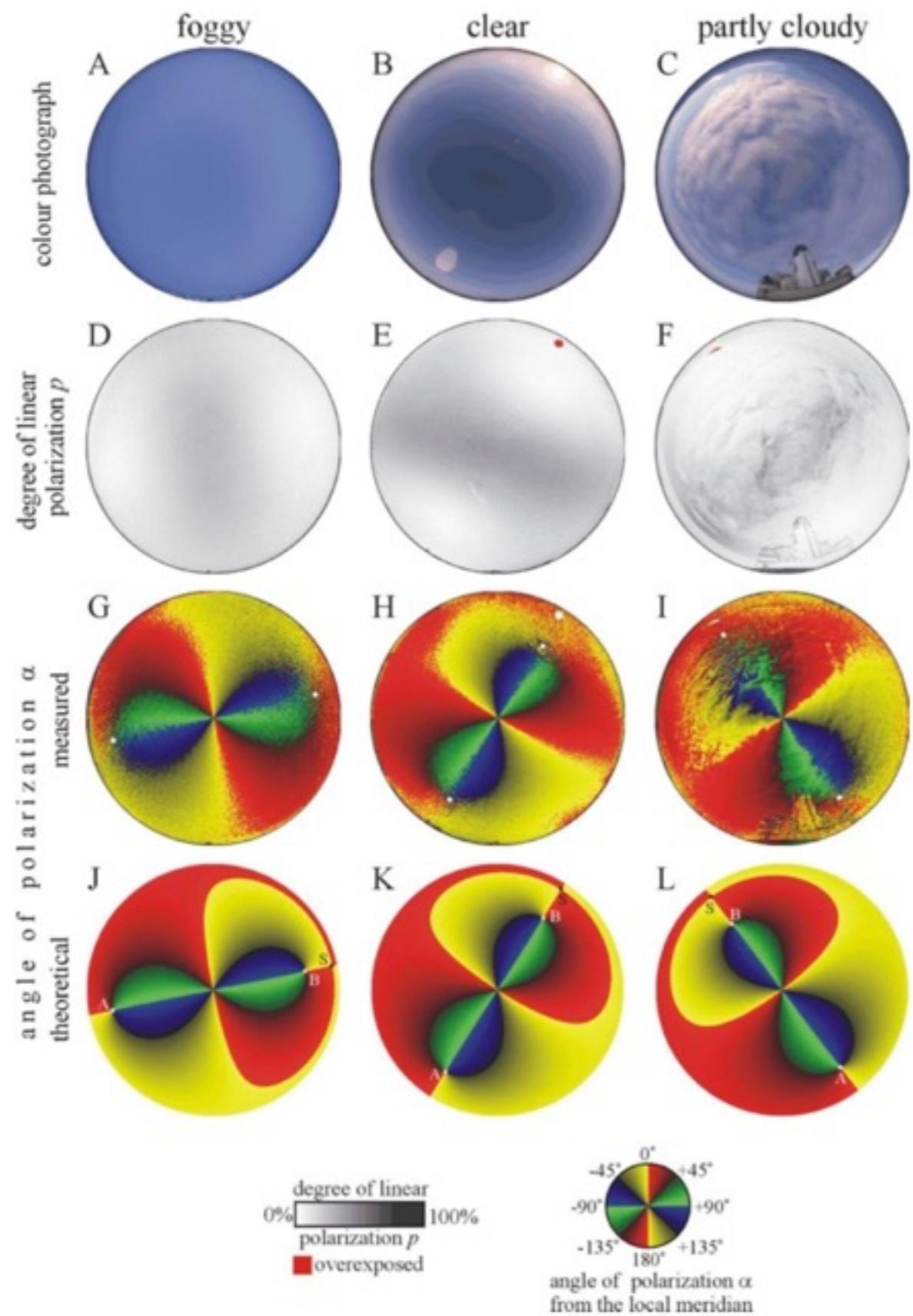


La polarización del fondo cósmico

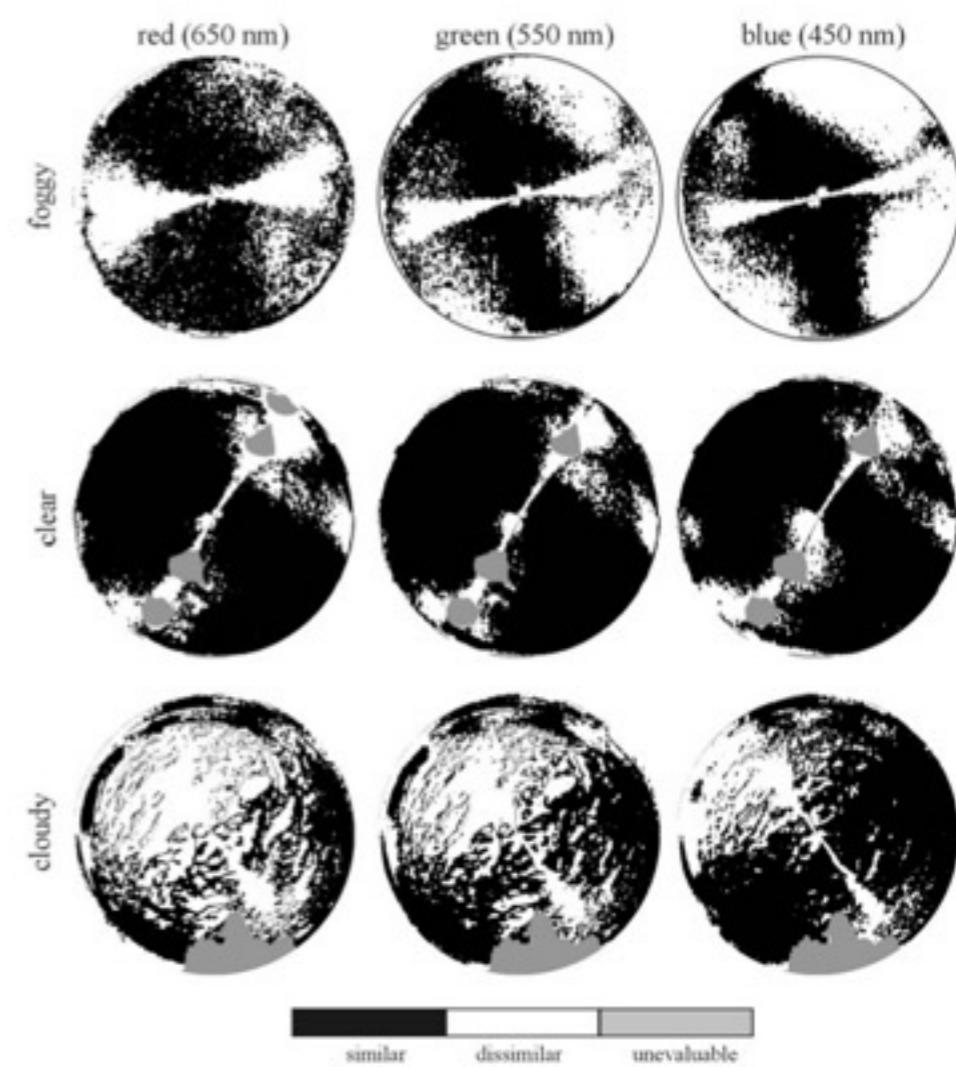
La polarisation du fond cosmique



La luz viene de una sola dirección
La lumière vient d'une seule direction



Polarization patterns of foggy, clear and cloudy skies



Regions (black) of
foggy, clear, and cloudy skies suitable
for polarimetric Viking navigation

Podemos aterrizar en la luna?
Peut-on atterrir dans la lune?

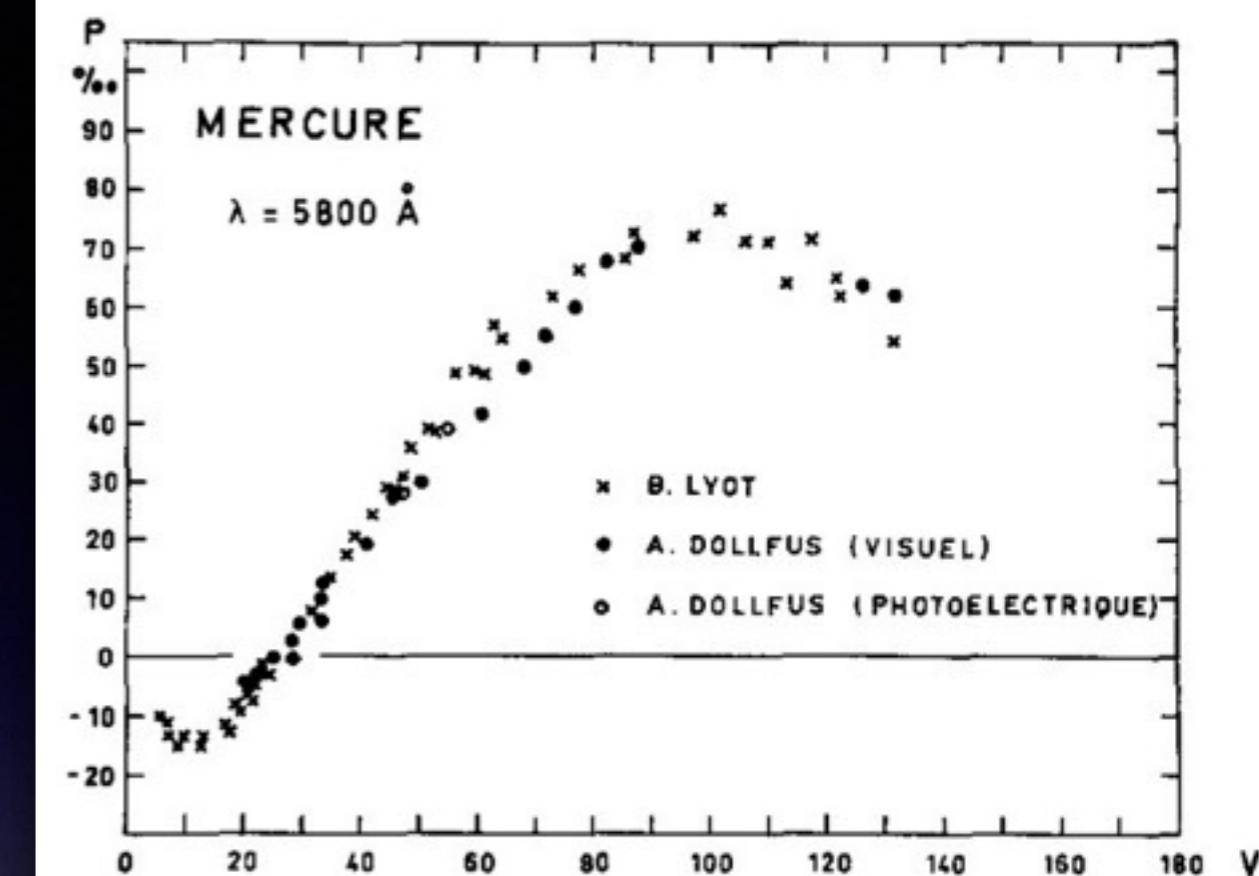
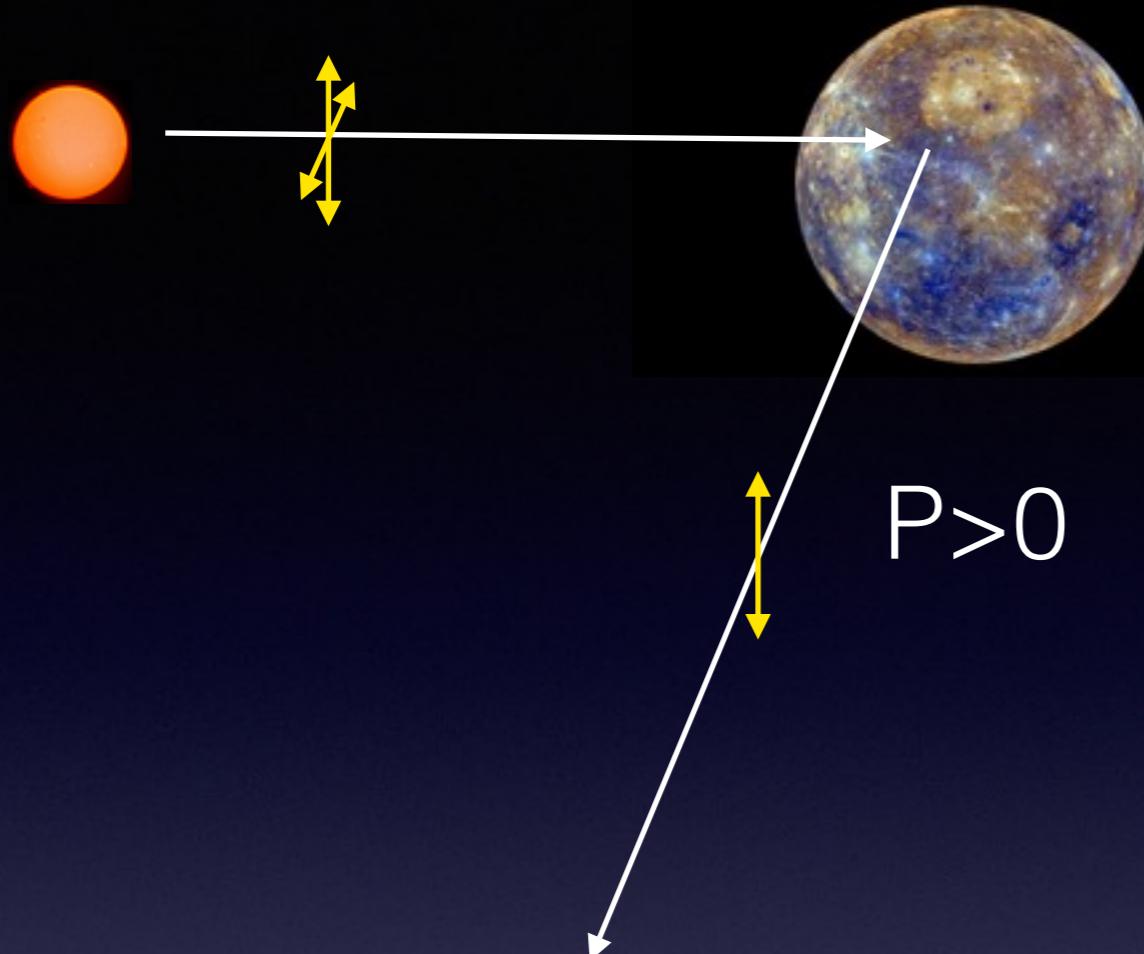


FIG. 3. Curve of polarization for planet Mercury (whole disk), at $\lambda = 5800 \text{ \AA}$. P is expressed in units of 10^{-3} . V is the phase angle.

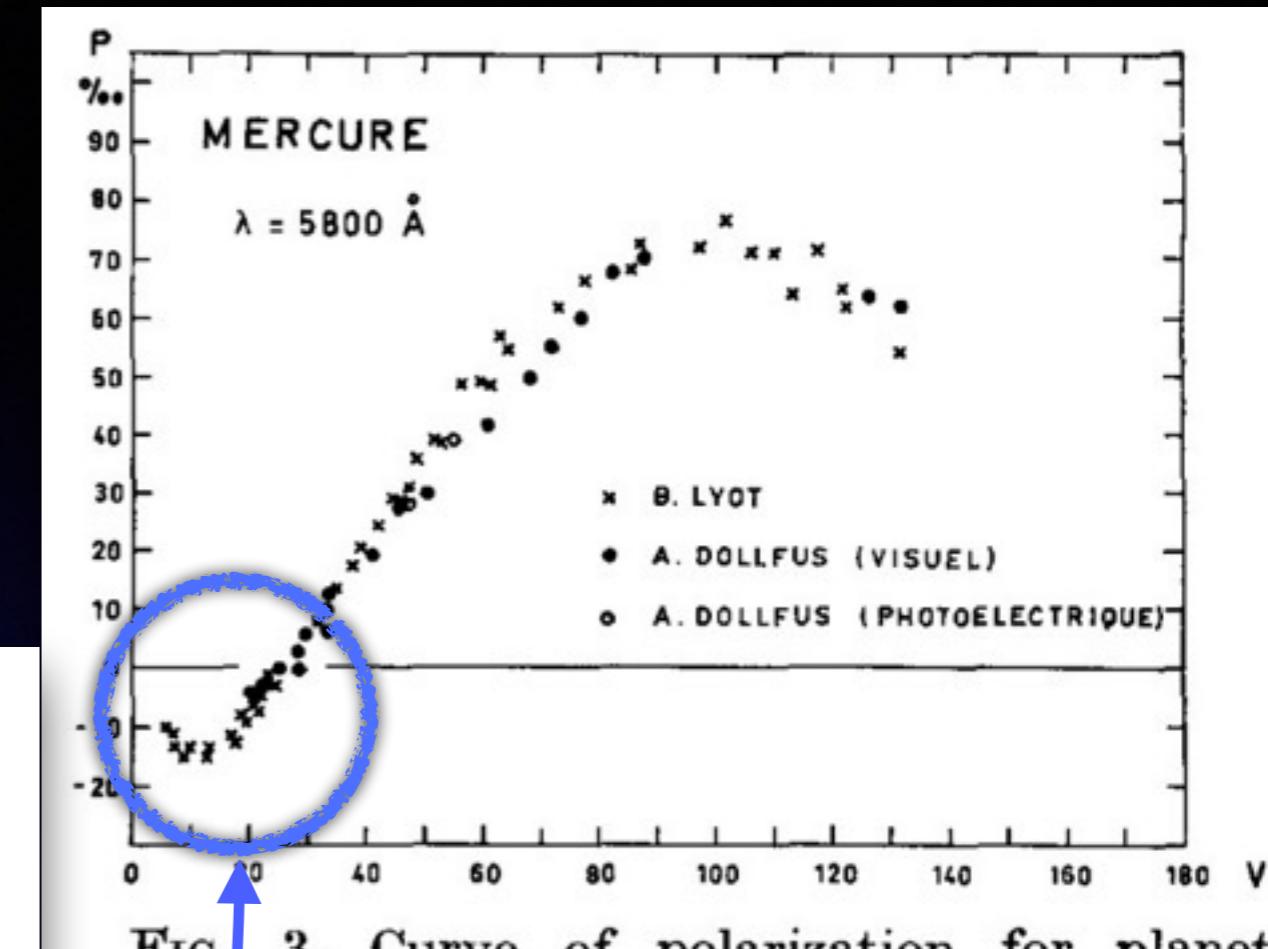
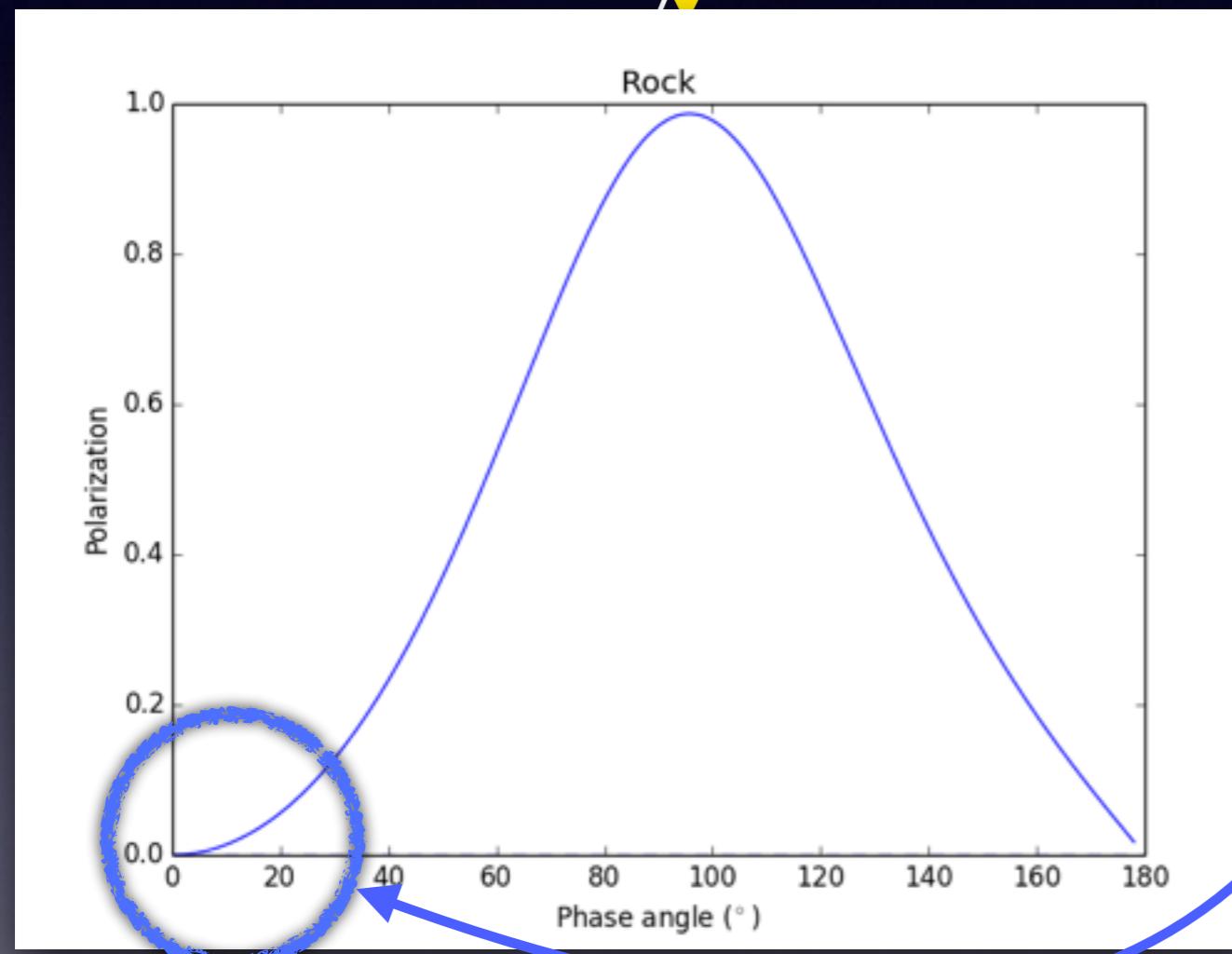
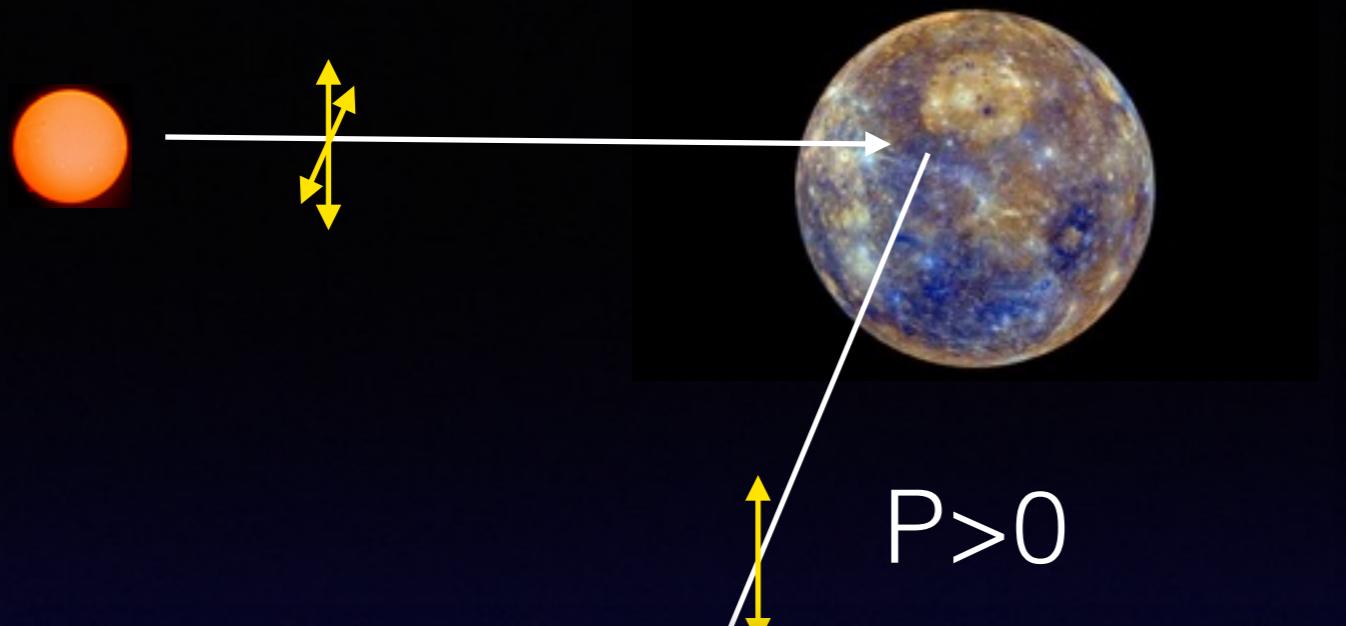


FIG. 3. Curve of polarization for planet Mercury (whole disk), at $\lambda = 5800 \text{ \AA}$. P is expressed in units of 10^{-3} . V is the phase angle.

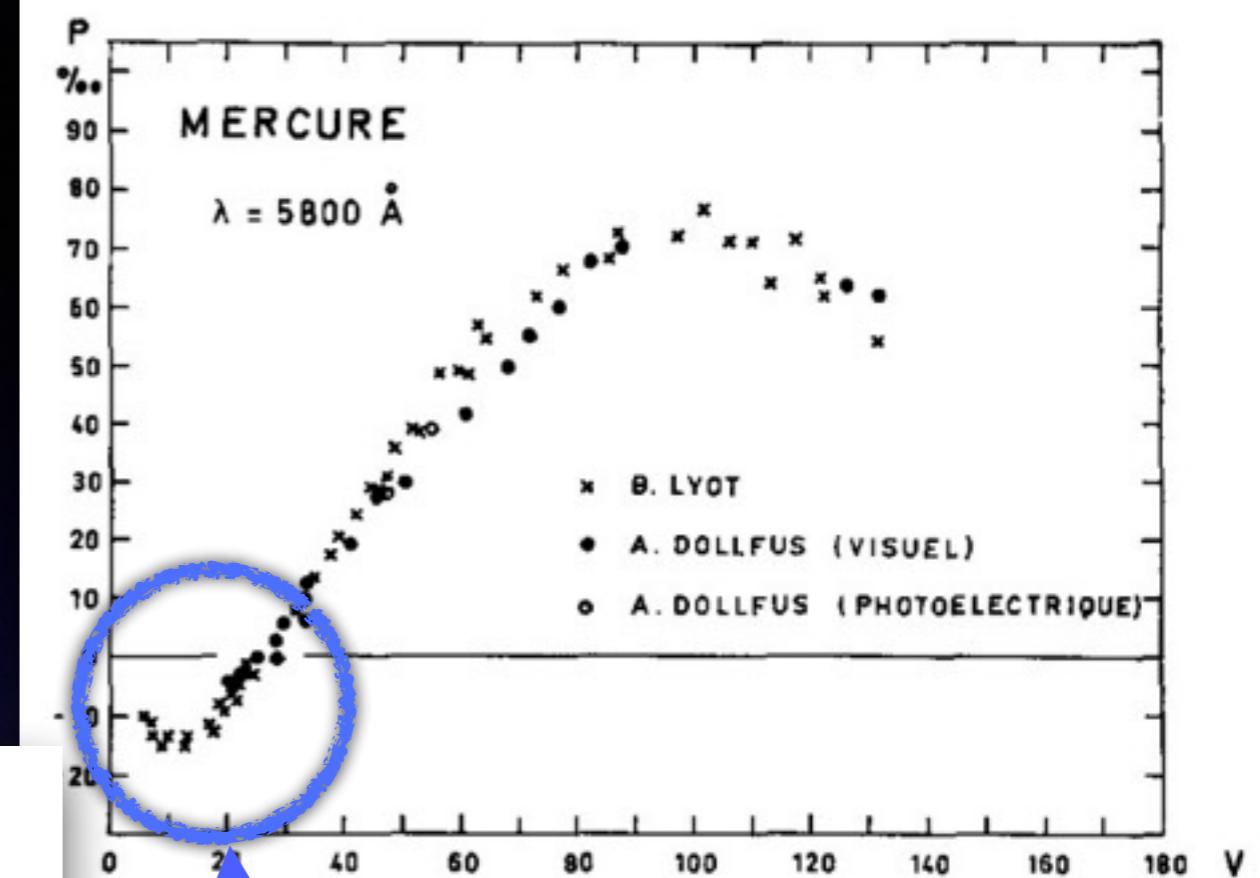
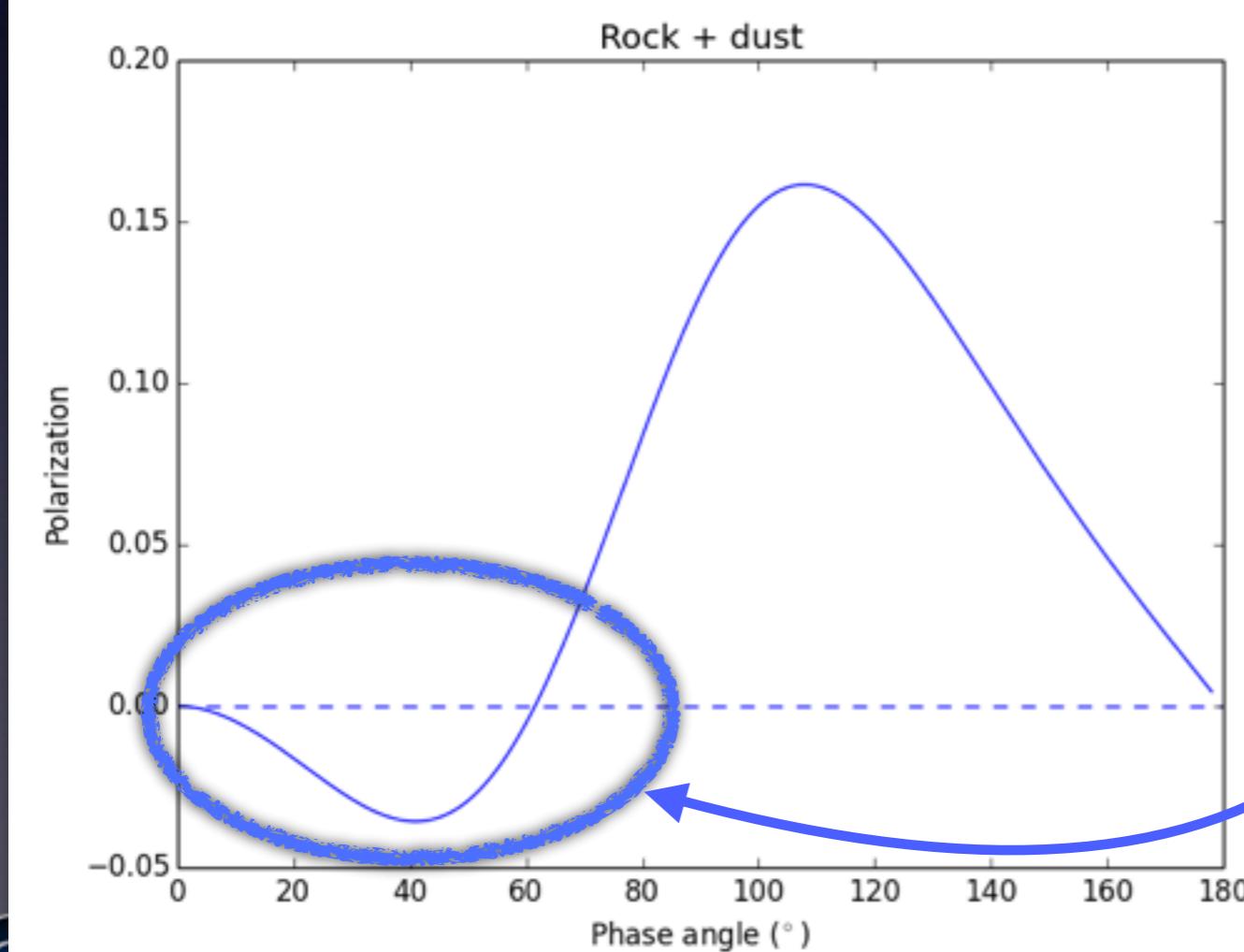
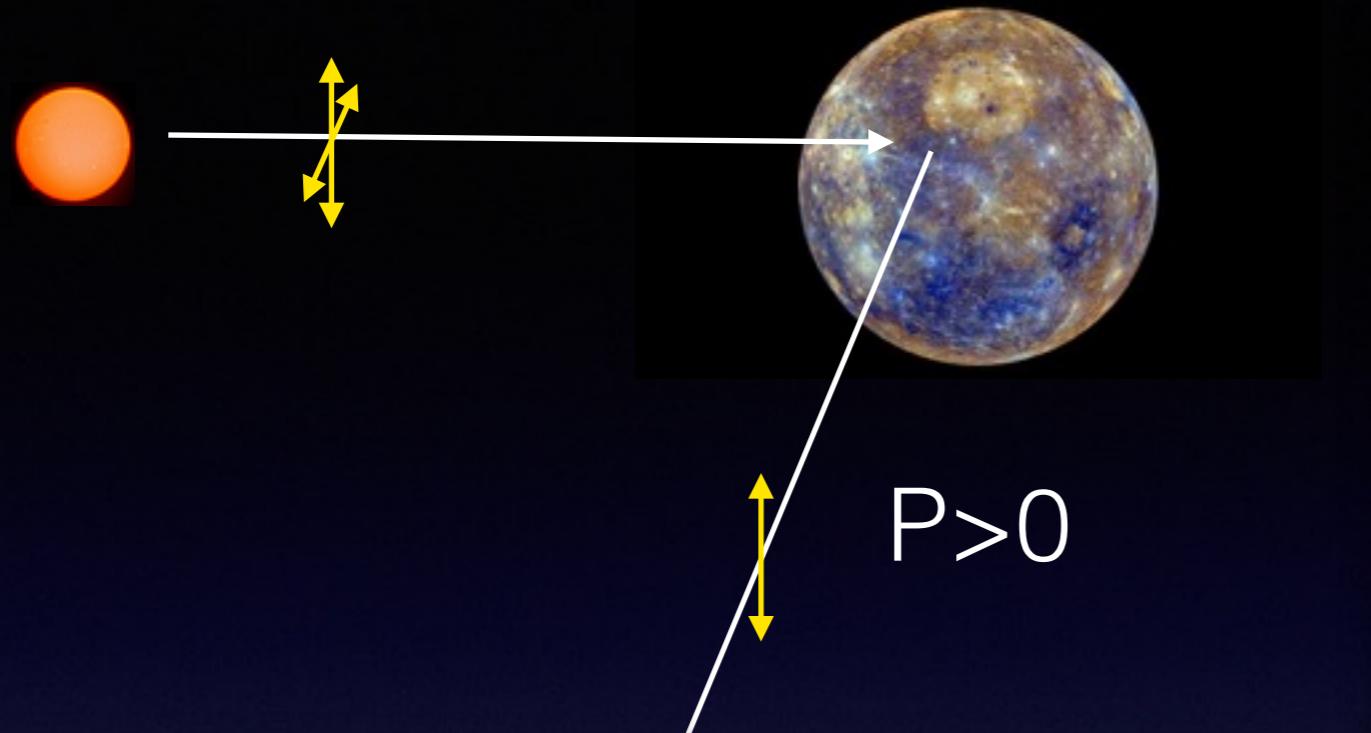
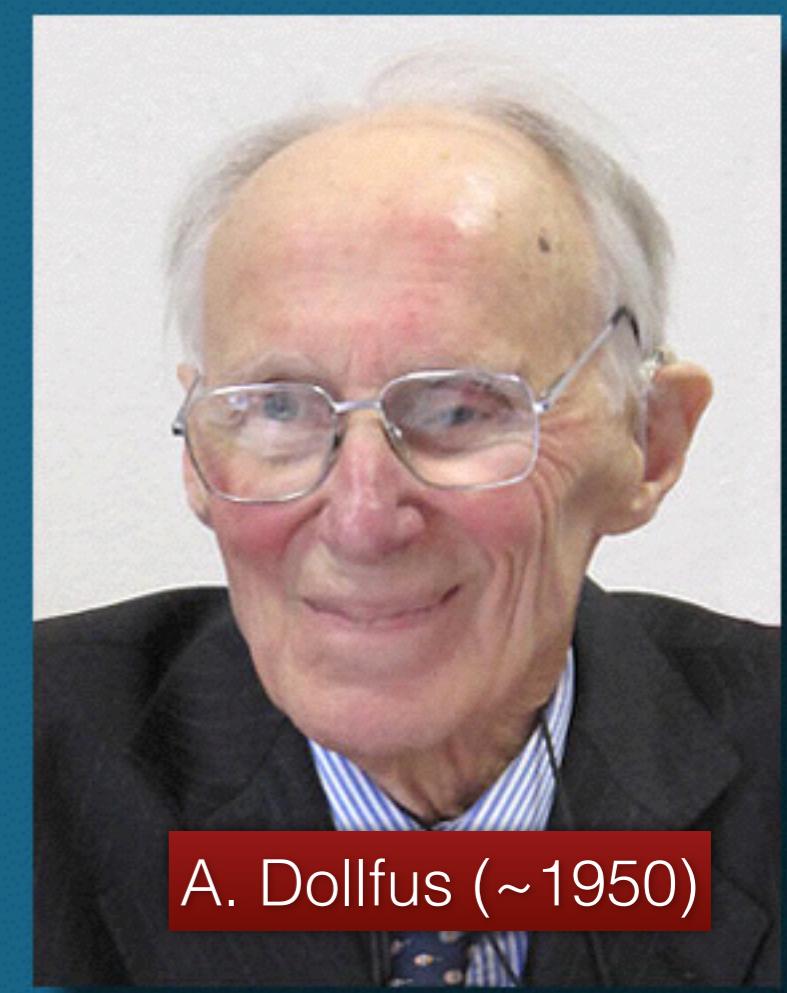
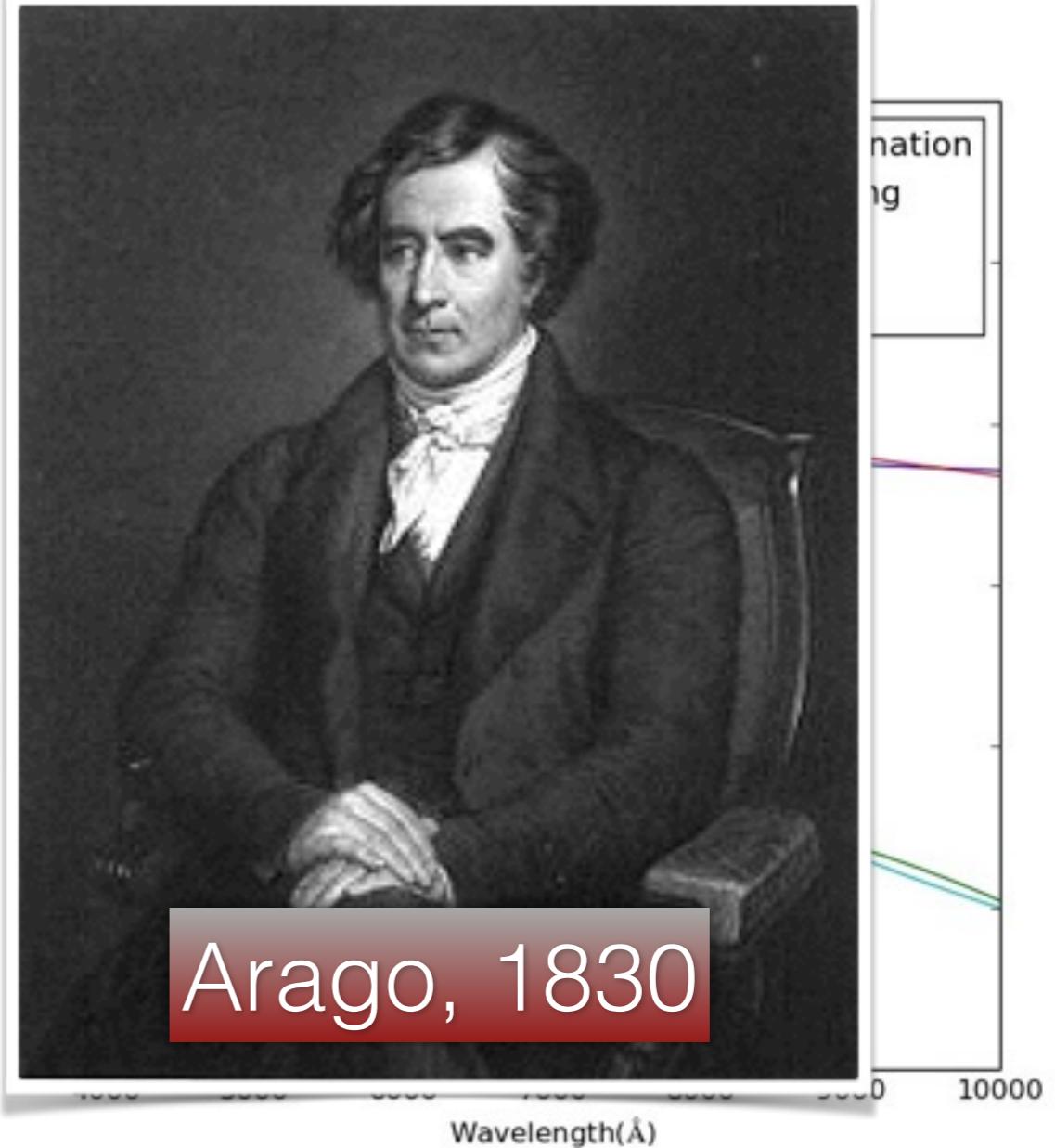
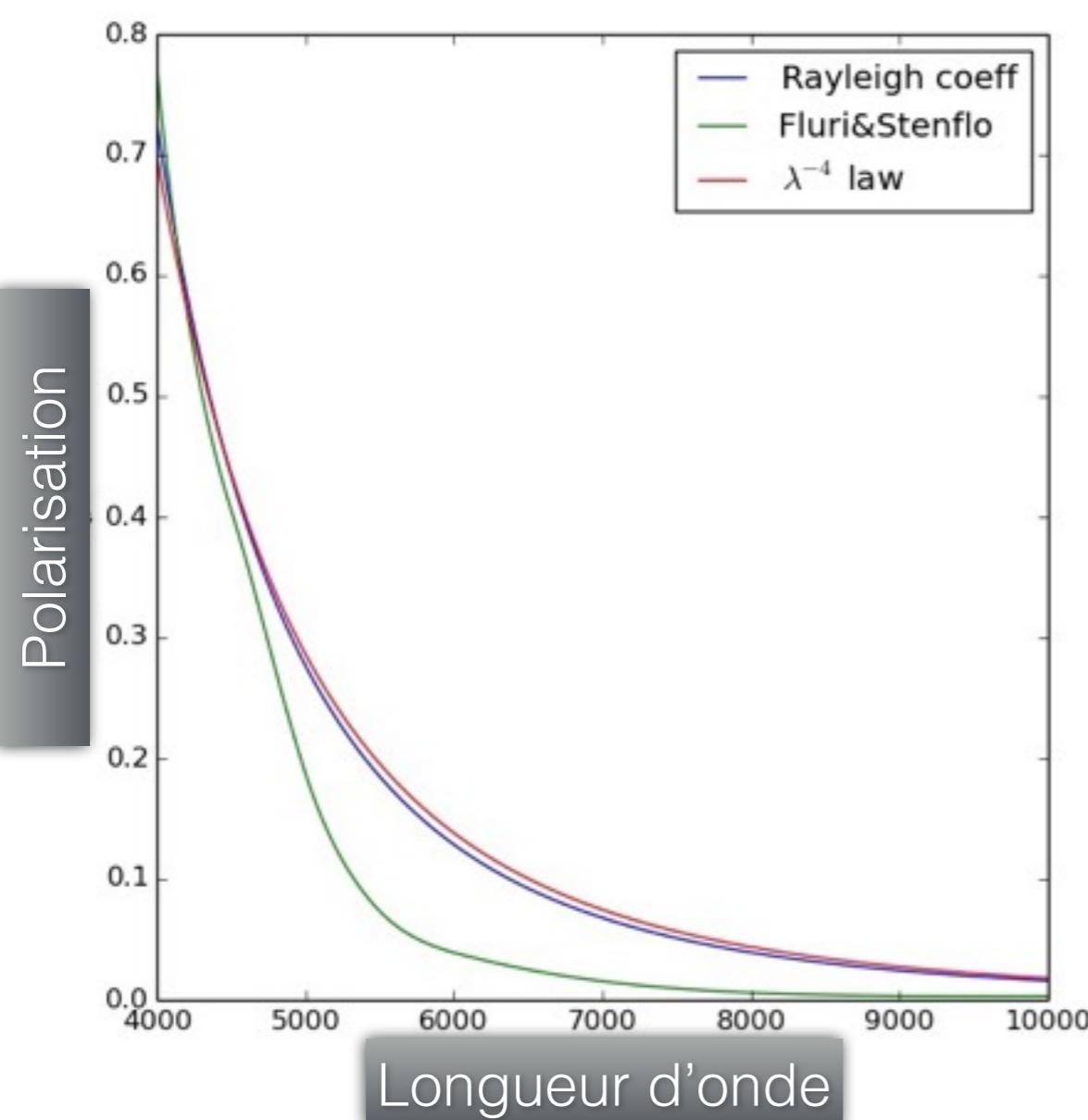


FIG. 3. Curve of polarization of Mercury (whole disk) expressed in uncorrected values.

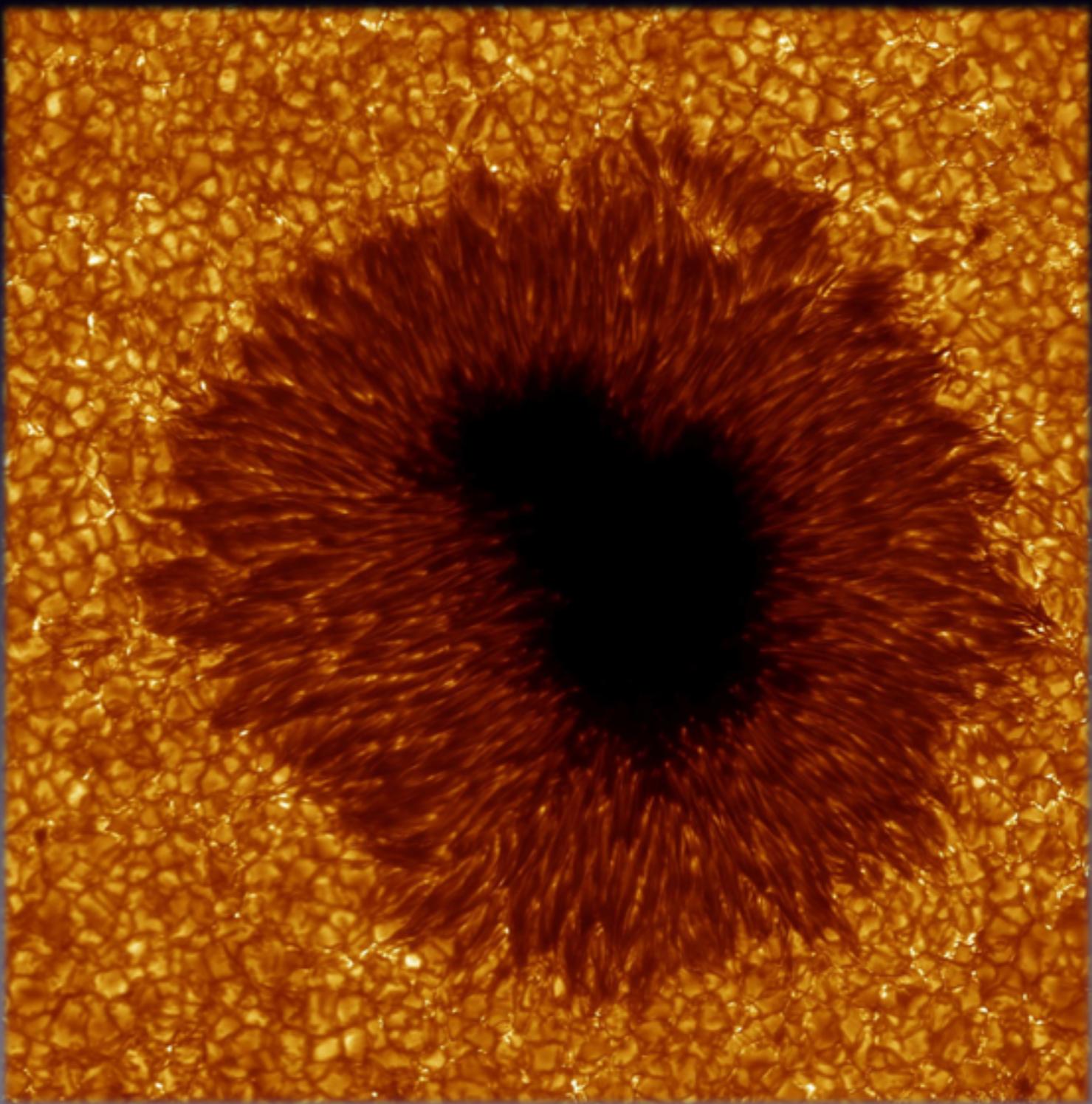


Podemos aterrizar en el sol?
Peut-on atterrir dans le soleil?

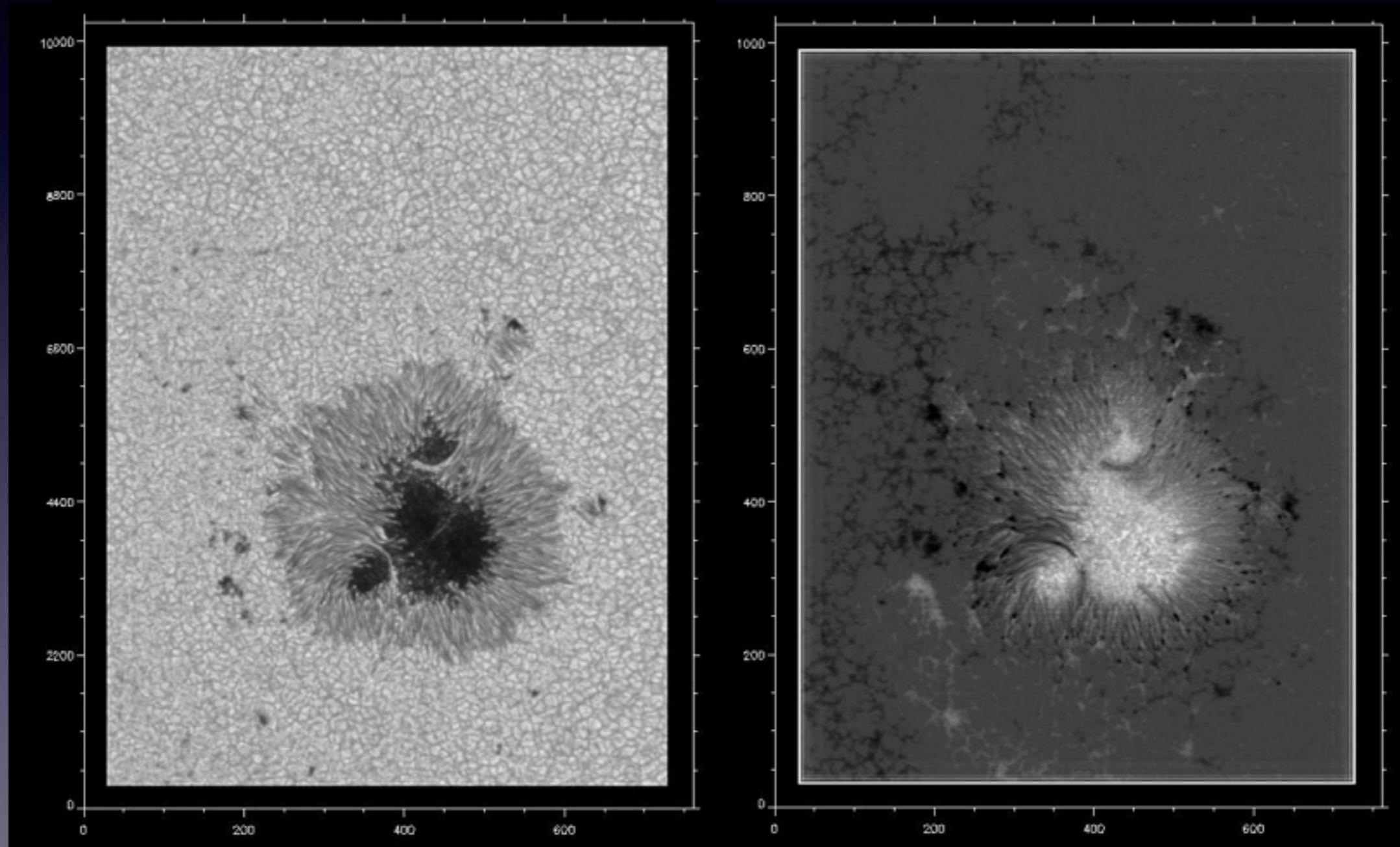
Podemos aterrizar en el sol? Peut-on atterrir dans le soleil?

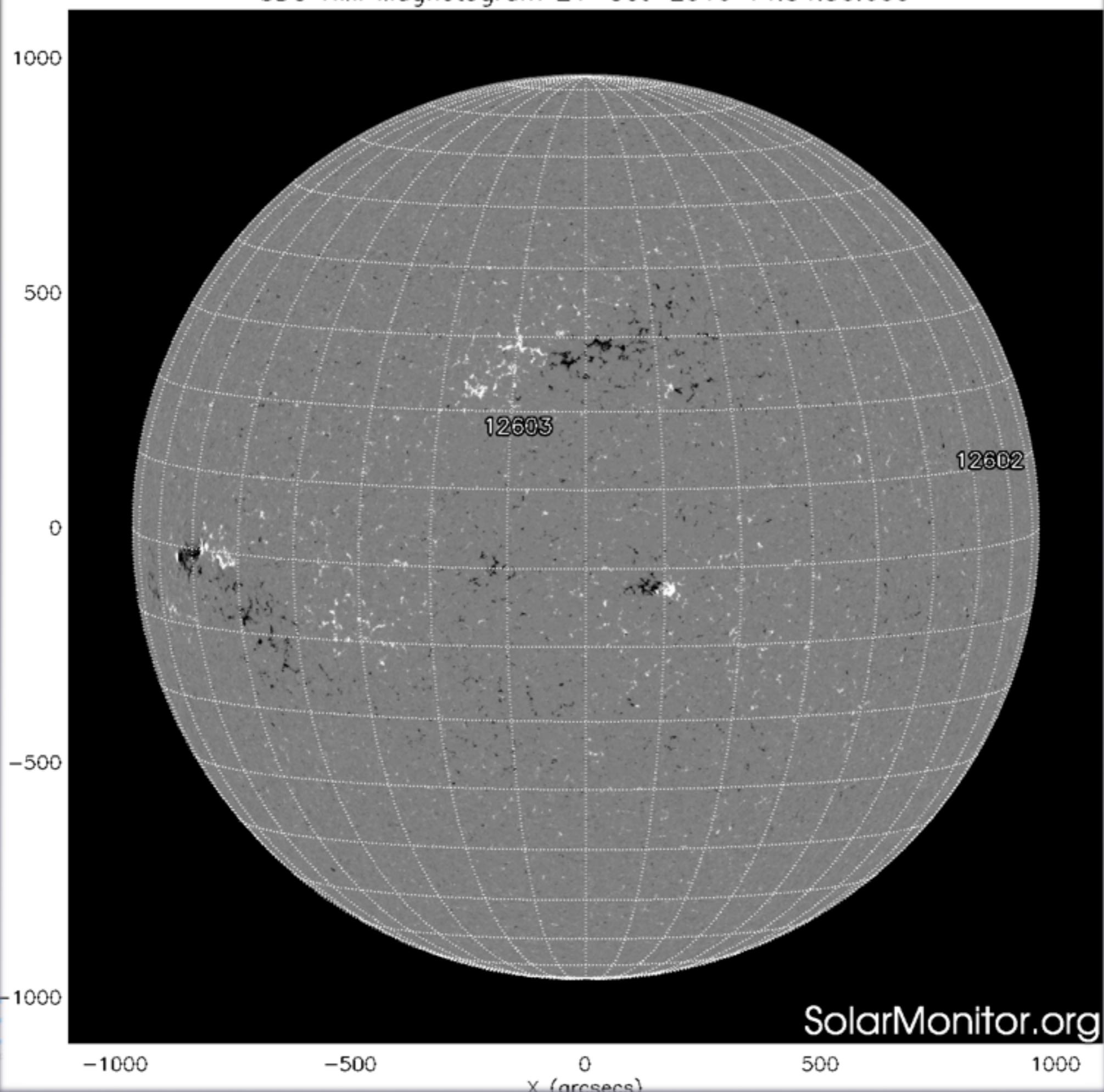


Un campo magnético hace girar la luz
Un champ magnétique fait tourner la
lumière



Un campo magnético hace girar la luz
Un champ magnétique fait tourner la
lumière





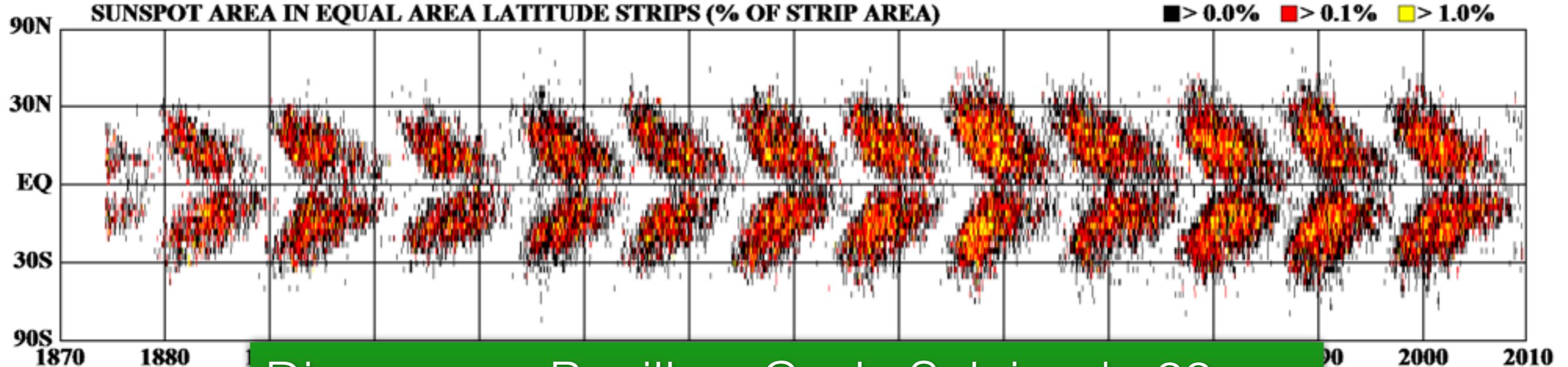
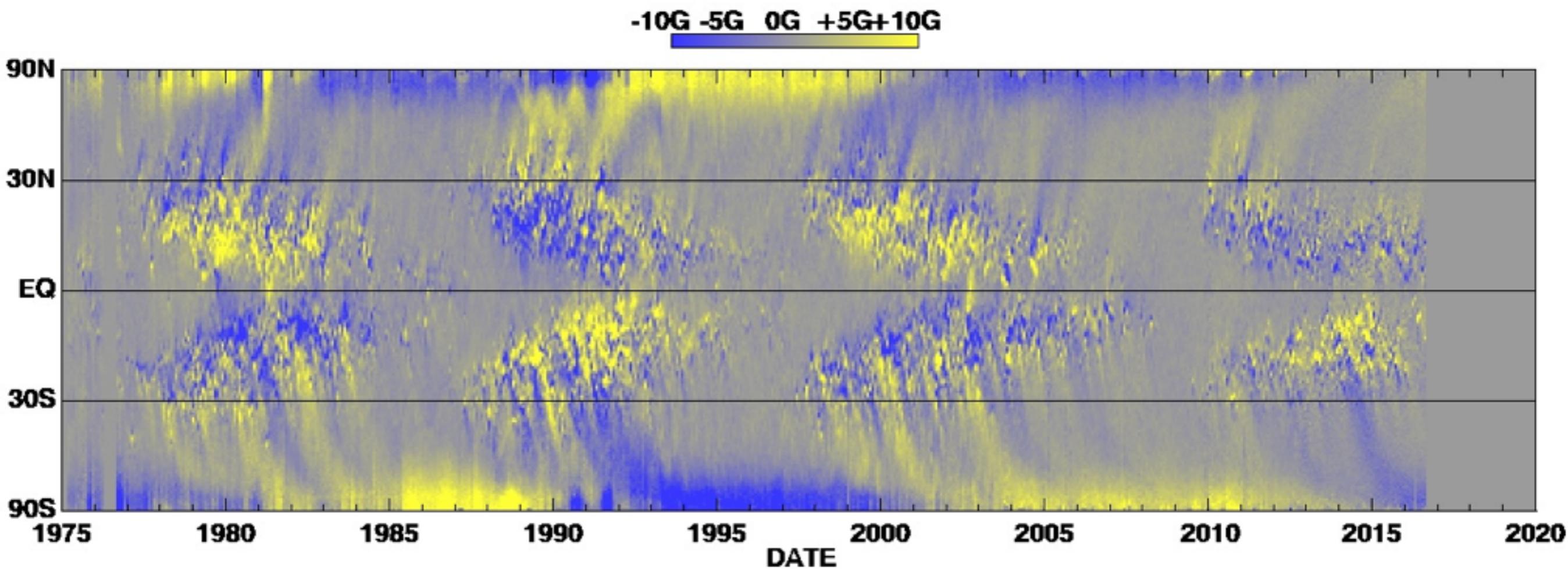
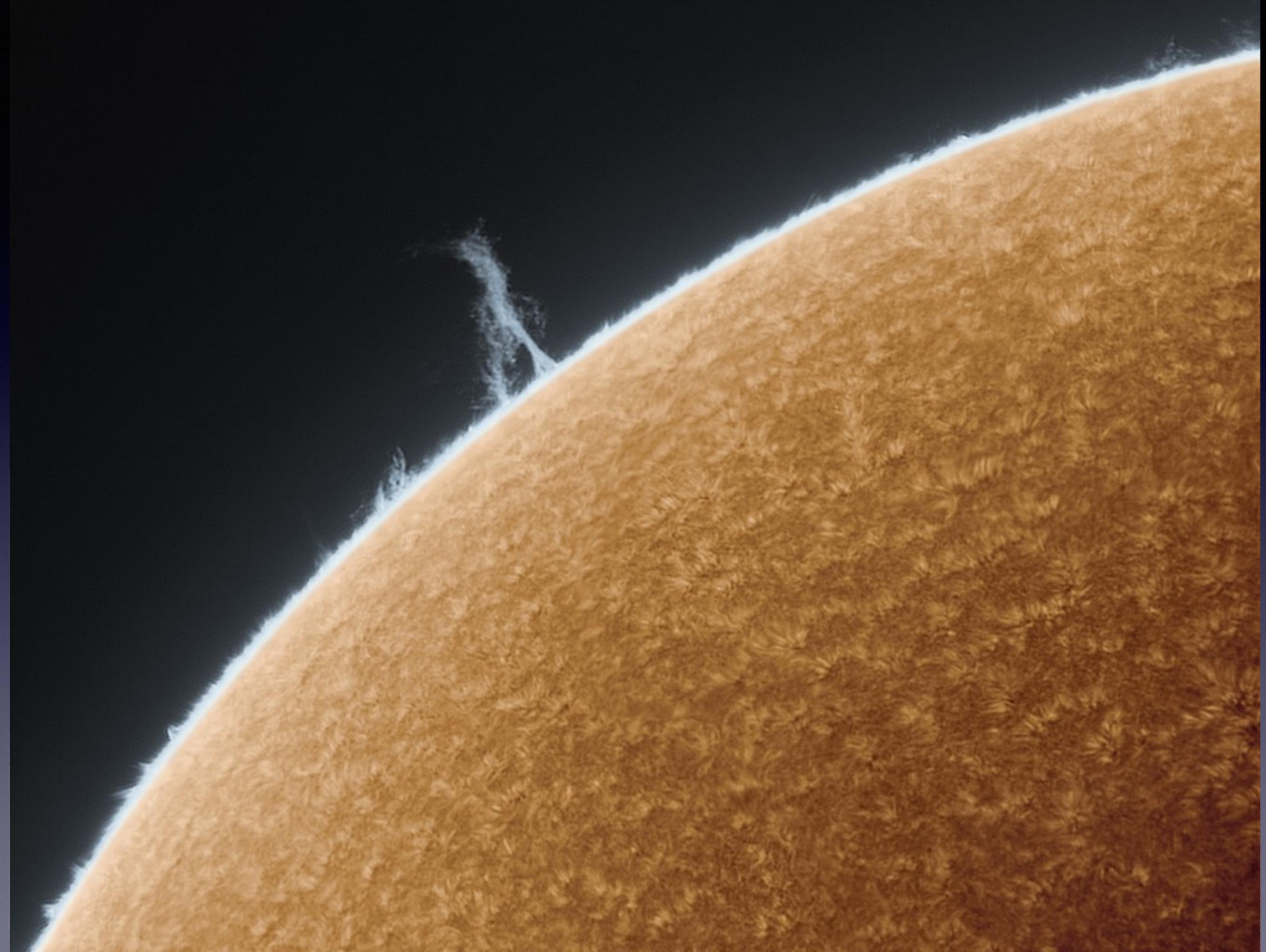
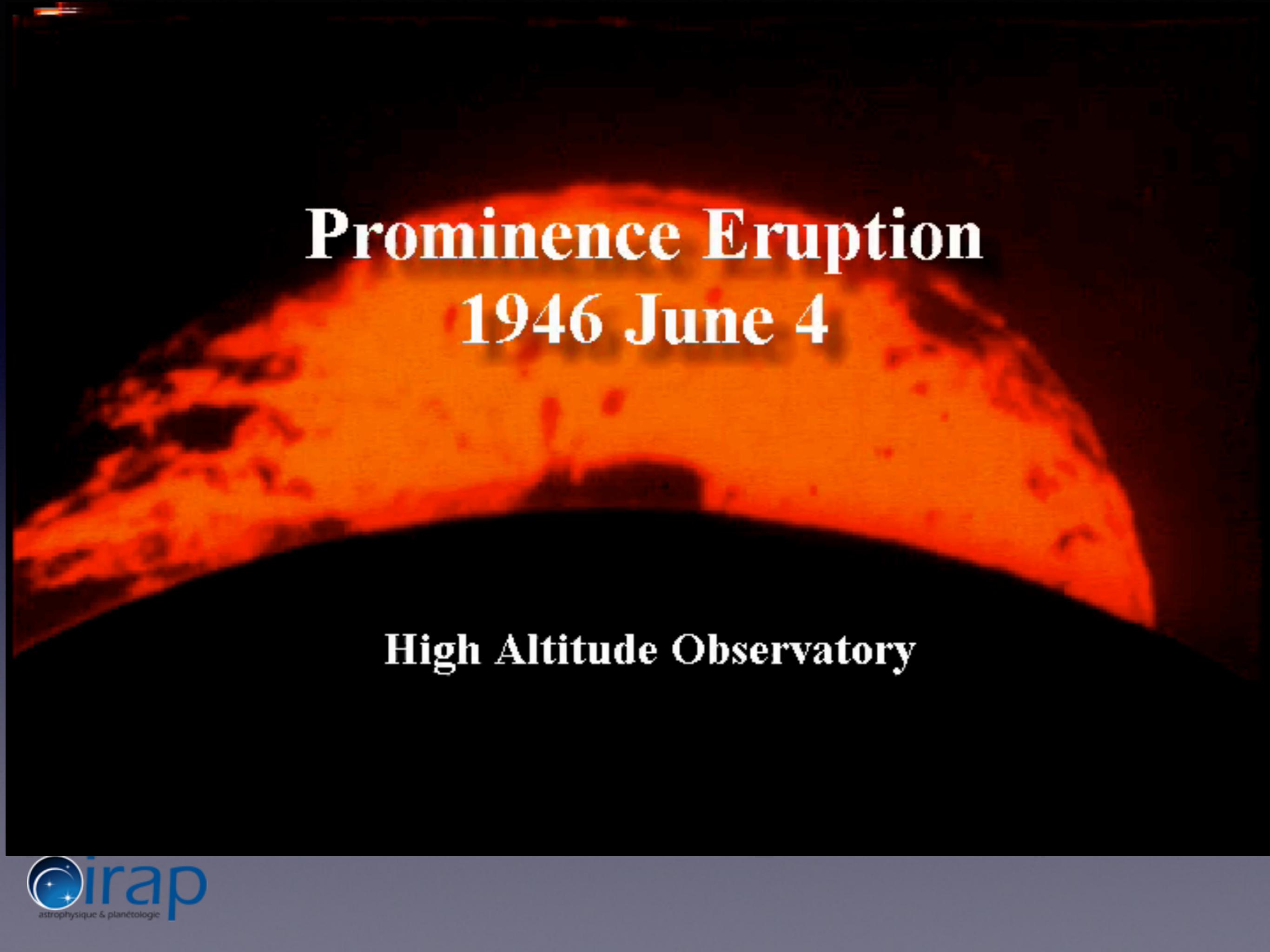


Diagramme Papillon, Cycle Solaire de 22 ans
Diagramma Mariposa, Ciclo Solar de 22 años





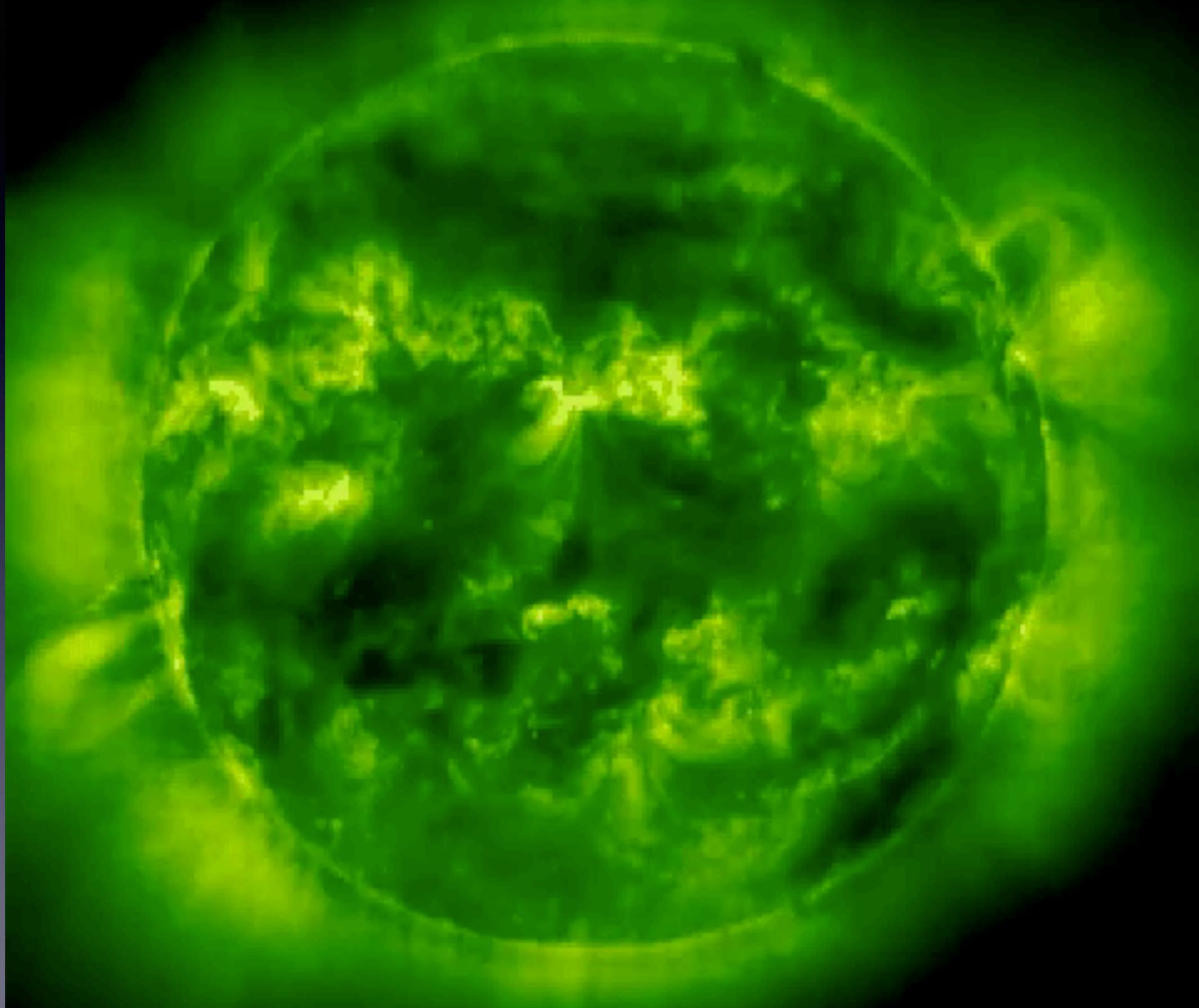


A large, bright orange and yellow solar prominence erupts from the Sun's surface. The prominence extends from the left side towards the right, with a dense, turbulent base and a more structured, arching upper portion. The background is the dark void of space.

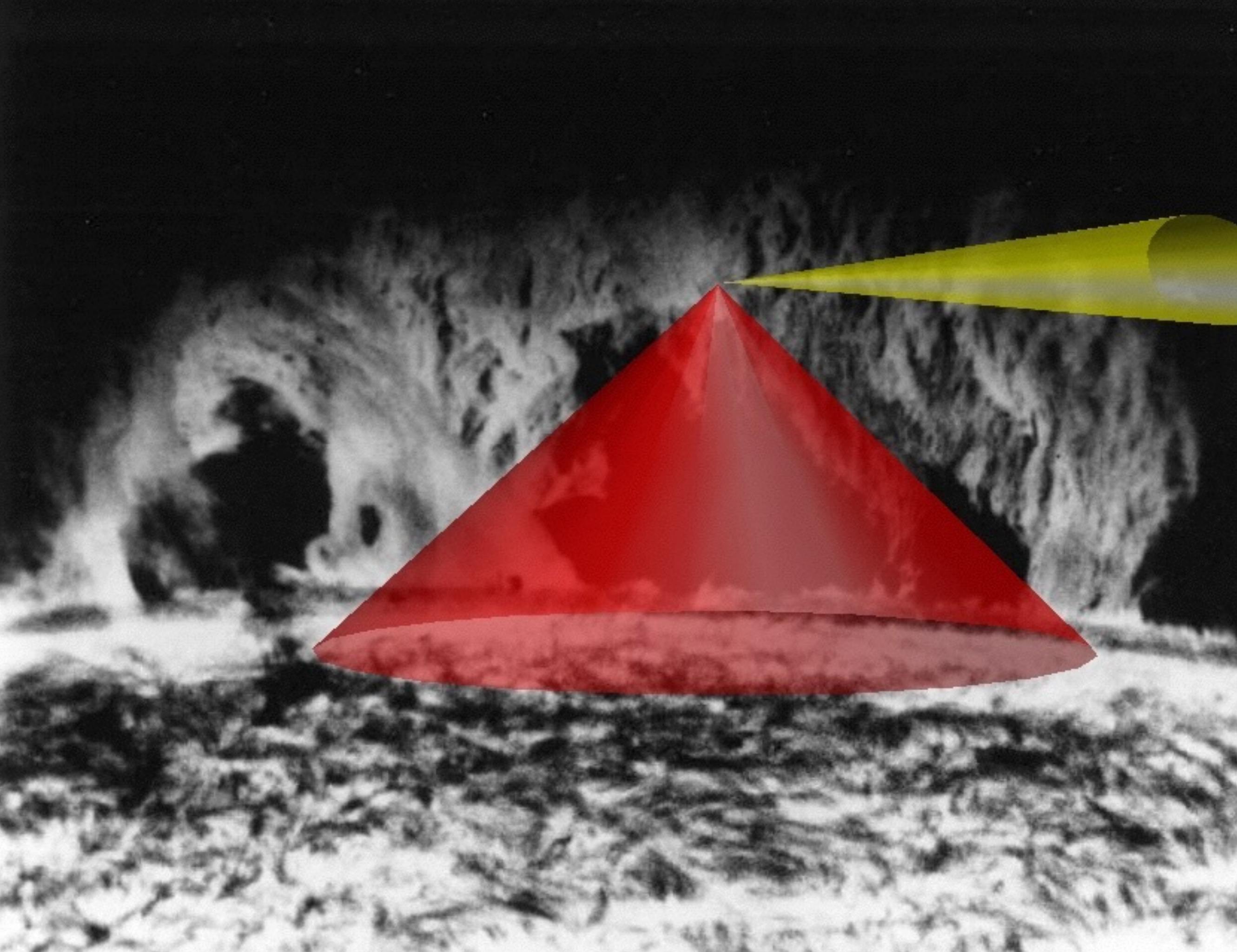
Prominence Eruption

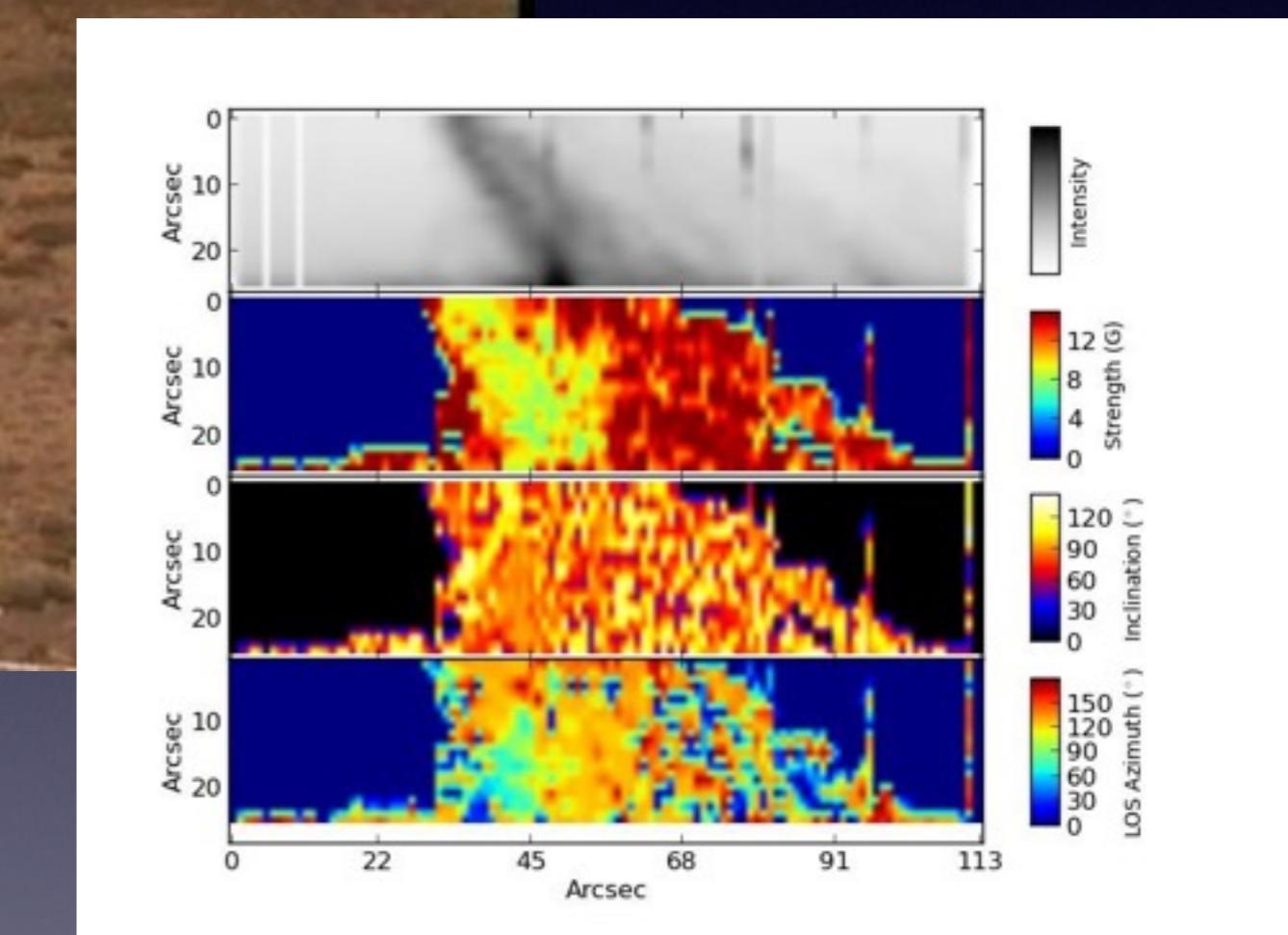
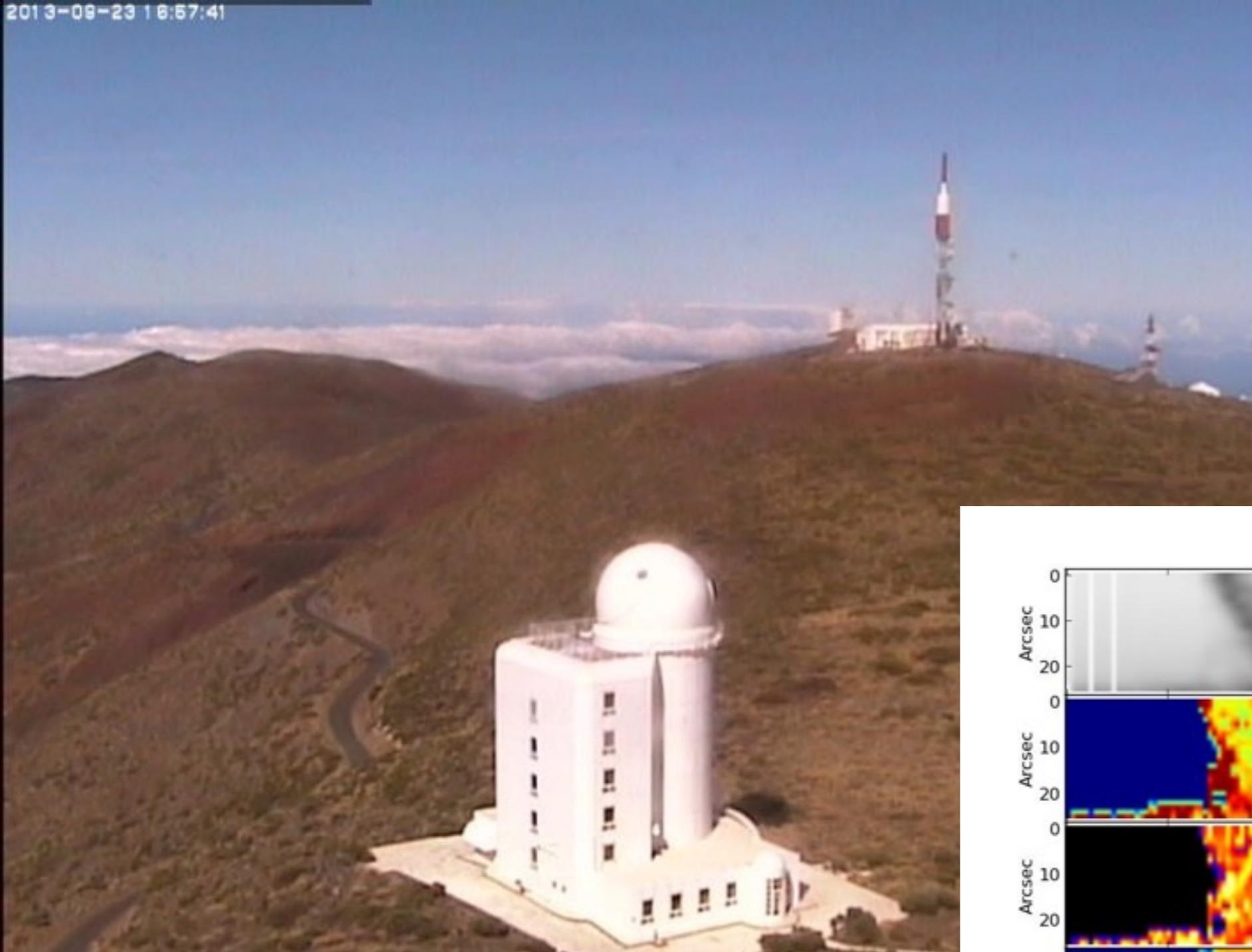
1946 June 4

High Altitude Observatory

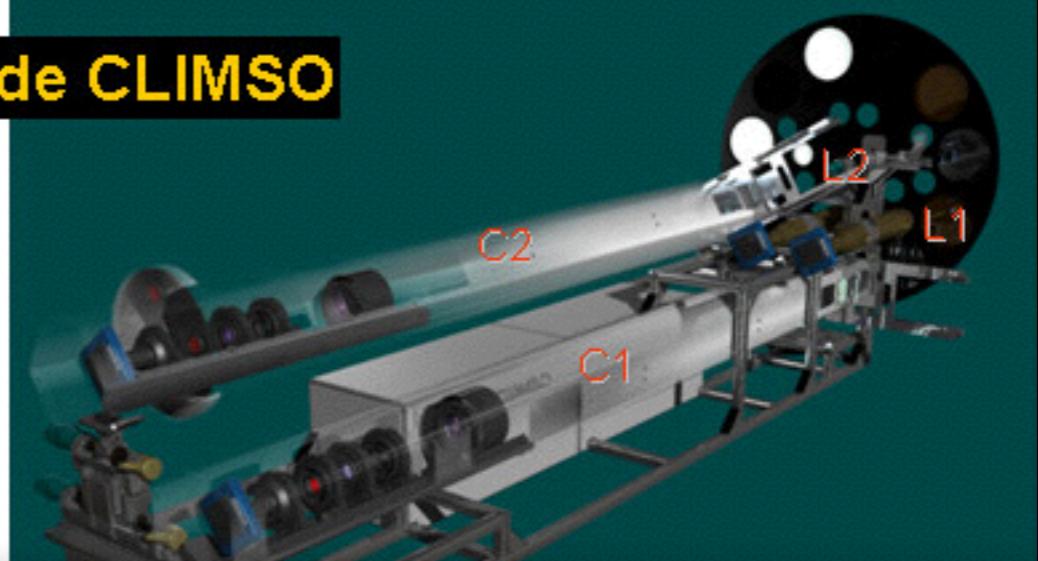
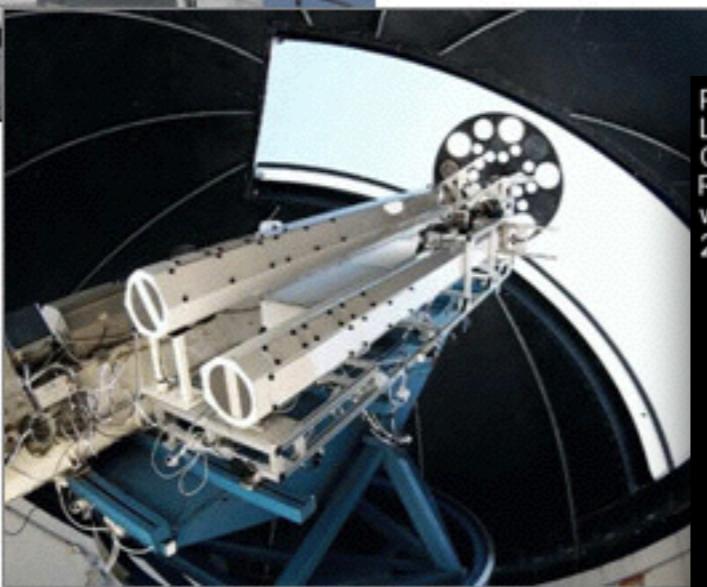


2020/07/12 12:12:12

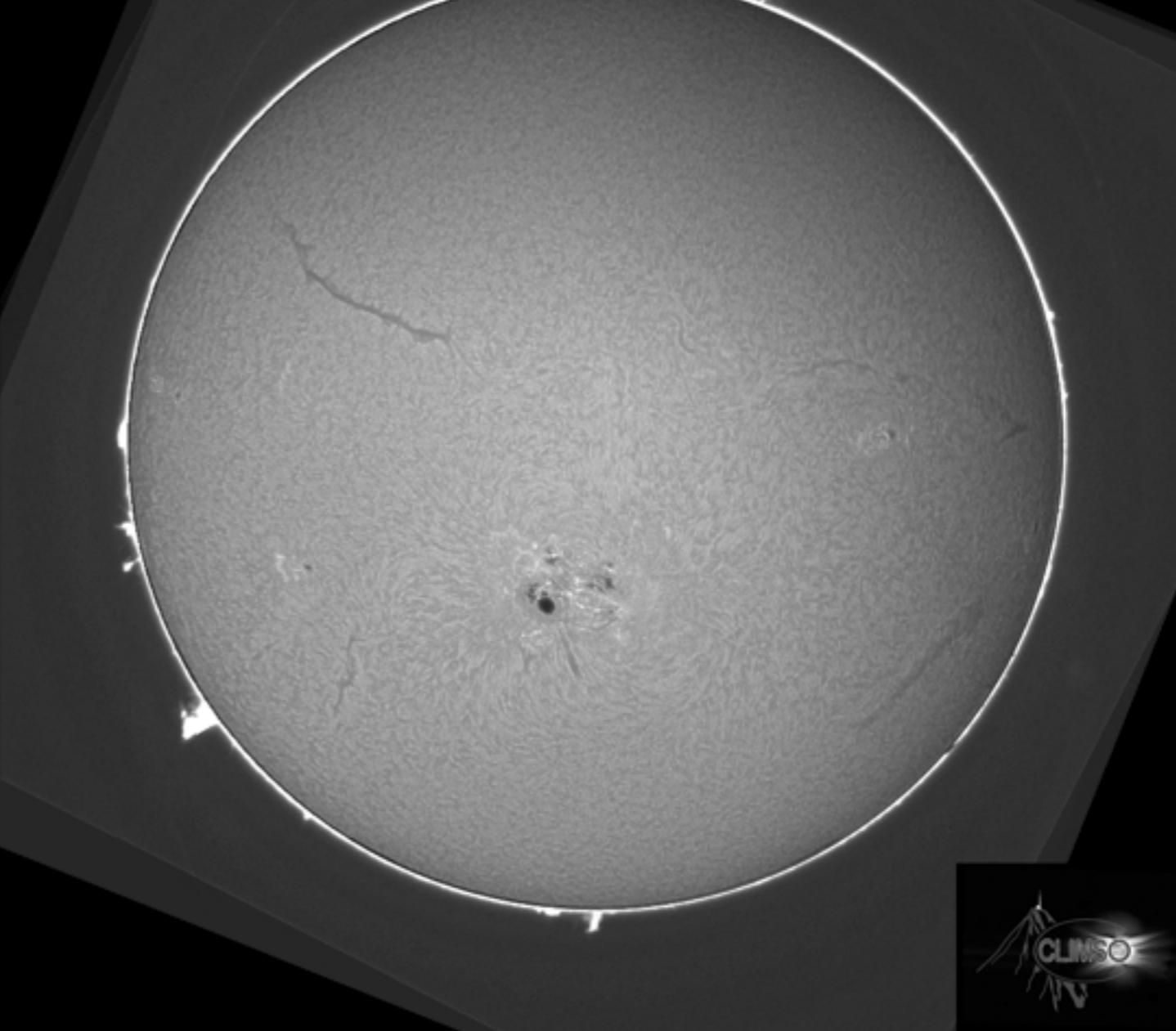


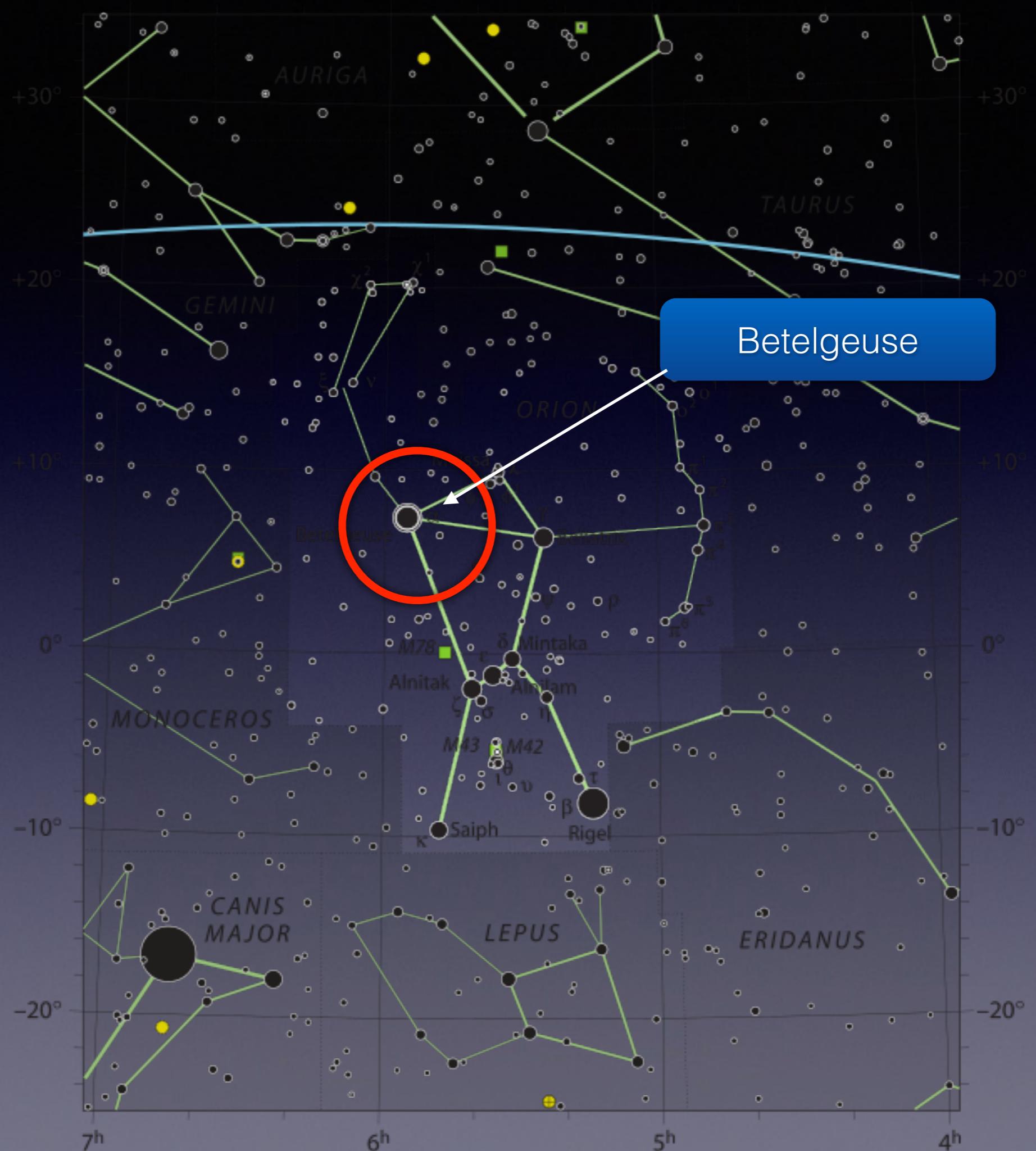


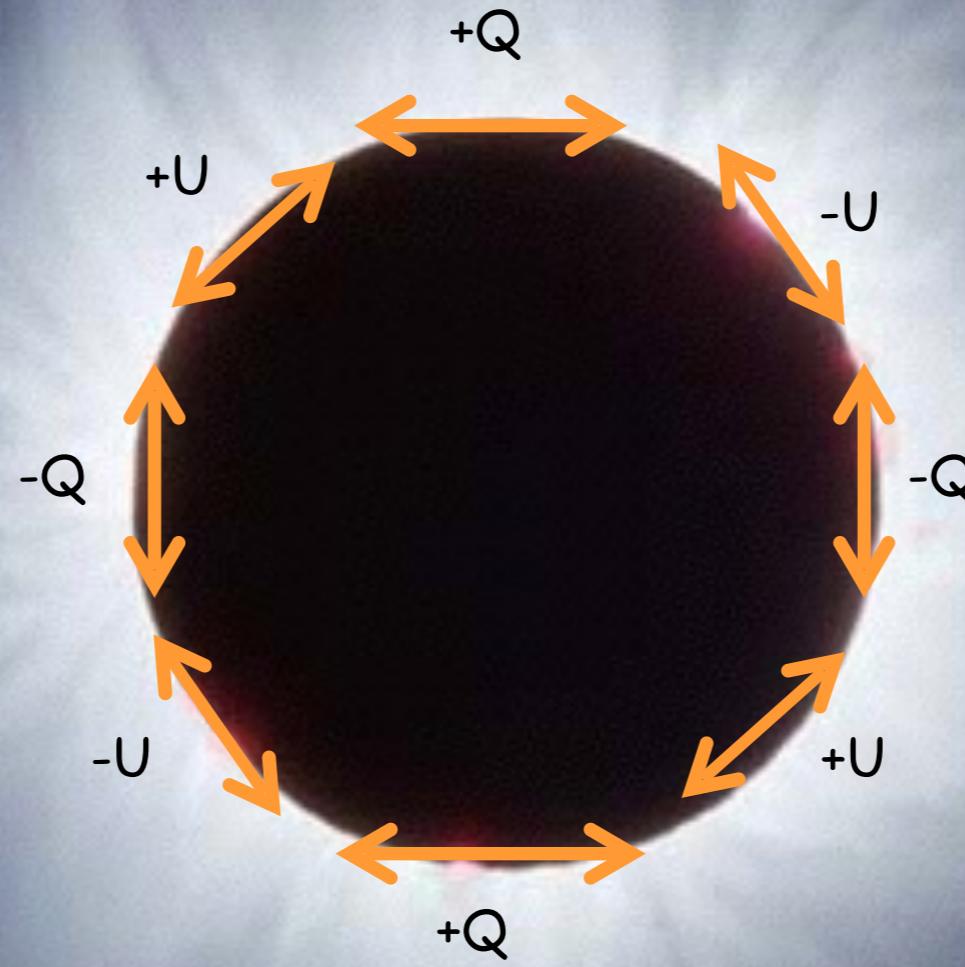
Les 4 instruments de CLIMSO



Pic Du Midi / Observatoire Midi-Pyrénées / CNRS
Les Observateurs Associés / FIDUCIAL
CLIMSO C1-L1 - Halpha Chromoclimsoscopé
Raw Image 6562.82 Å
www.climso.fr
2014/10/23 10:52:14







VLT - NACO

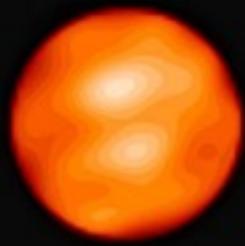


TBL at Pic du Midi

Hubble ST



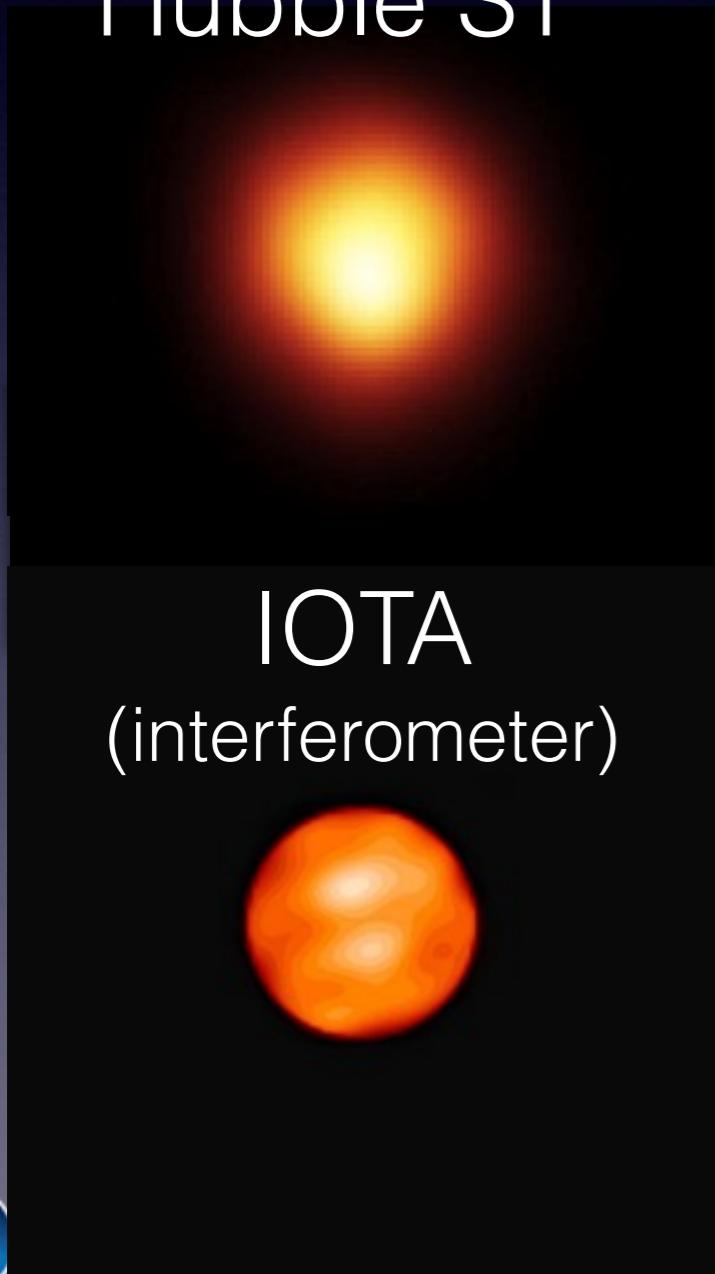
IOTA
(interferometer)



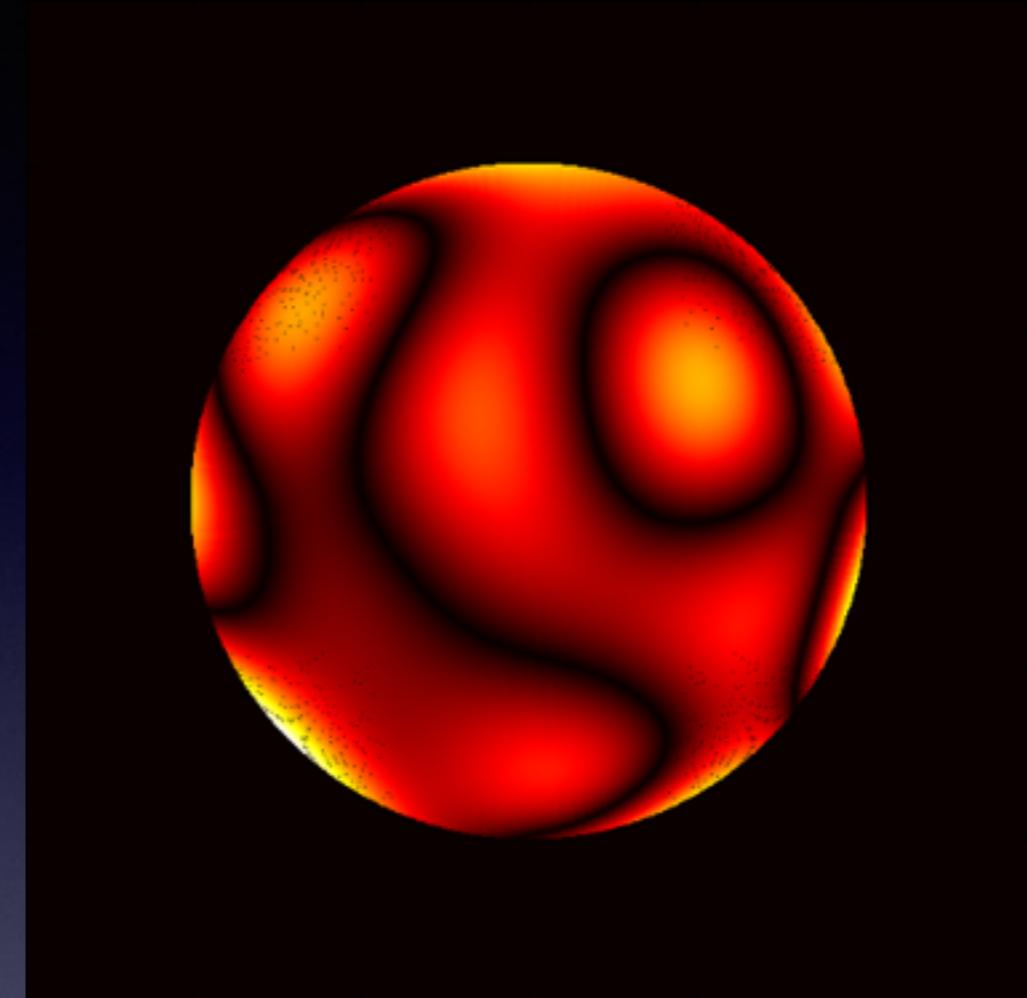
VLT - NACO



Hubble ST



TBL at Pic du Midi



VLT - NACO

TBL at Pic du Midi

Hubble ST

IOTA
(interferometer)

27/11/2013

