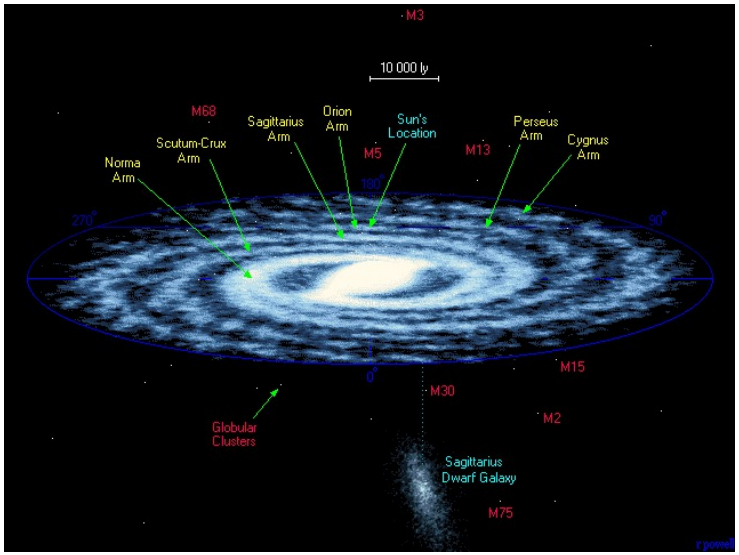
Soarele şi Sistemul solar

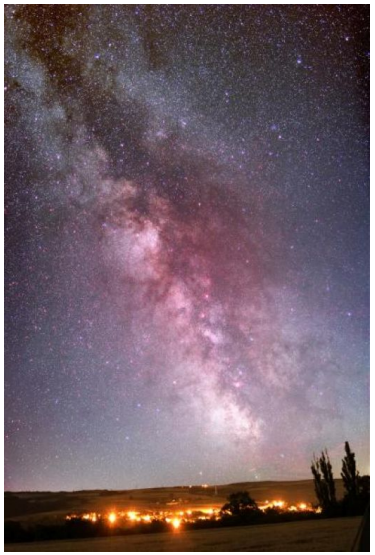
Diana Beşliu-Ionescu[1,2]

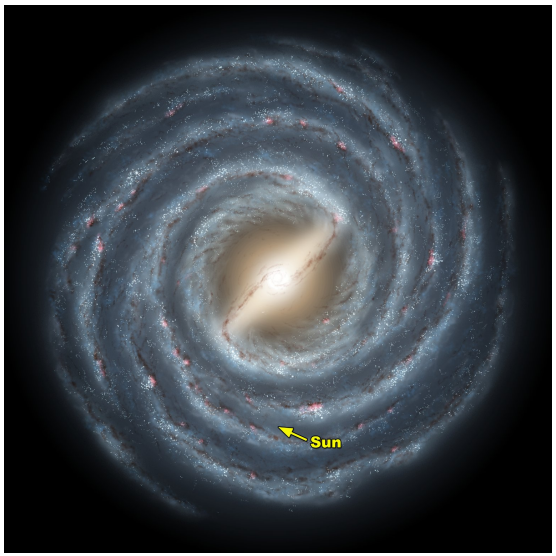
1. Institutul de geodinamică “Sabba S. Ştefănescu", Bucureşti, Romania
2. CSPA, School of Mathematical Sciences Monash University, Clayton, Australia

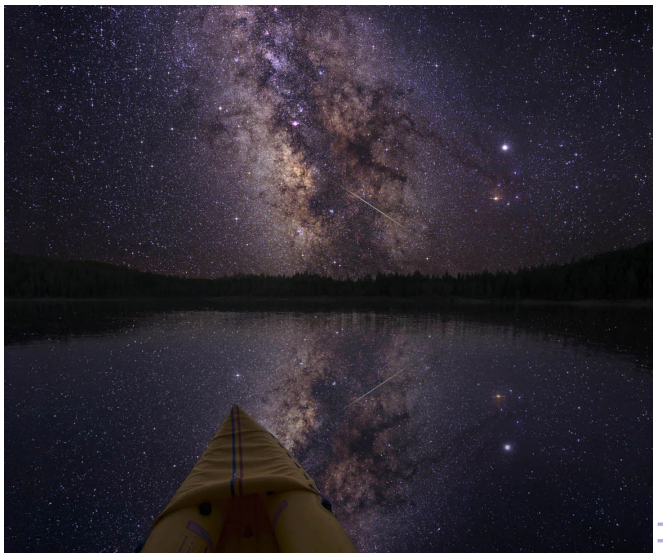
8 Octombrie 2011

Până la Soare...

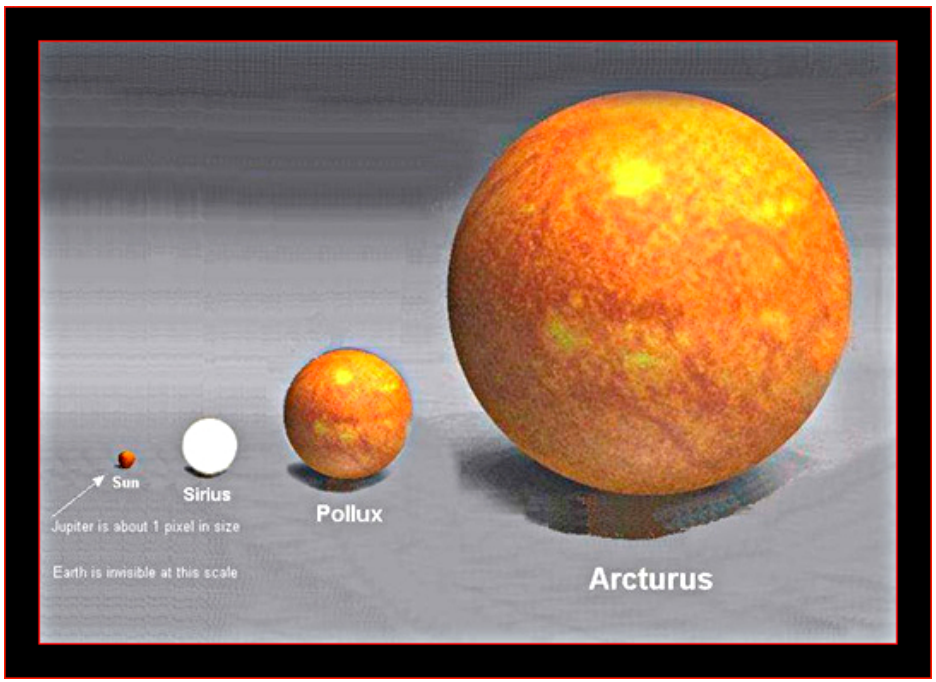


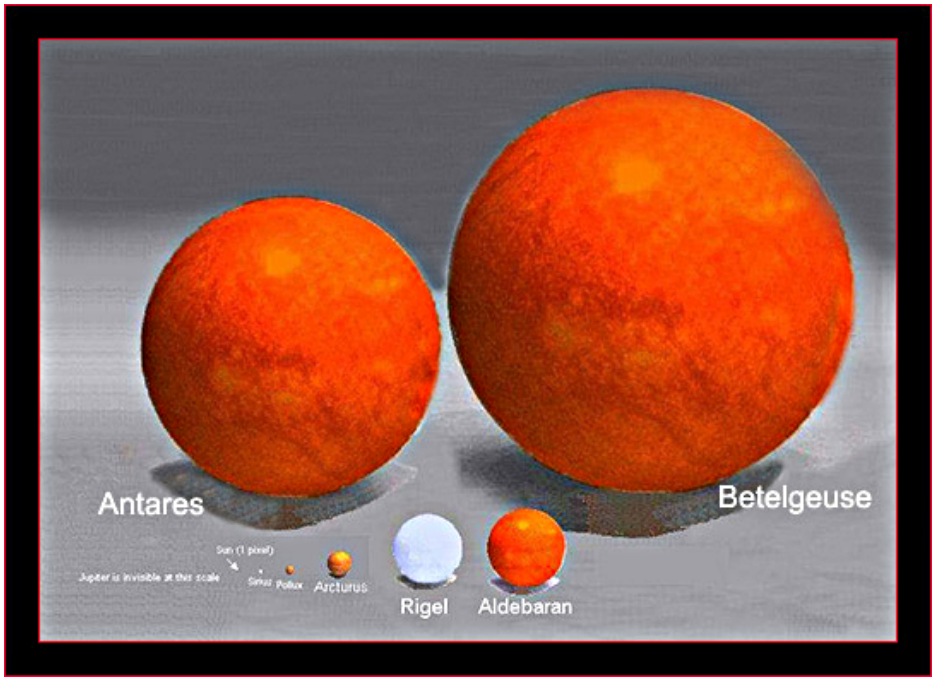




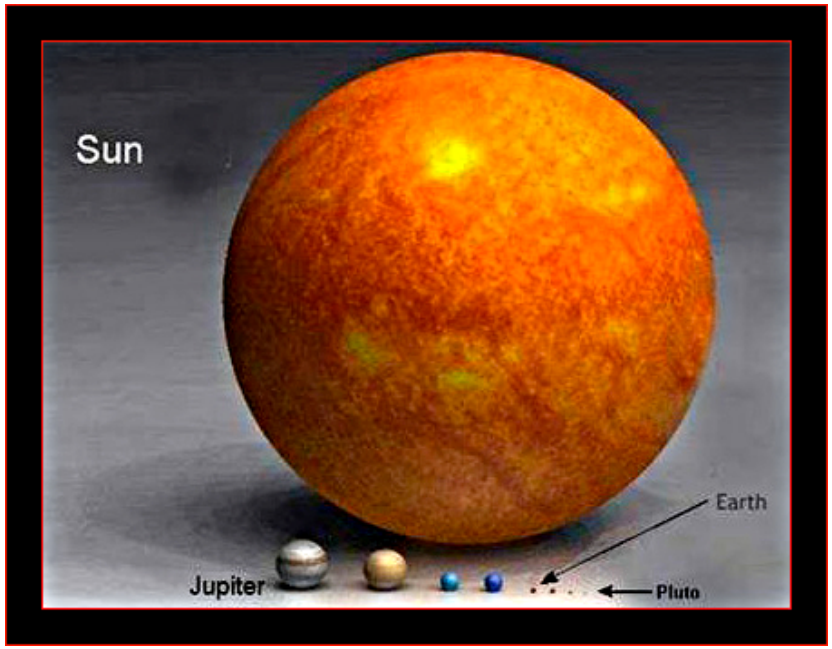


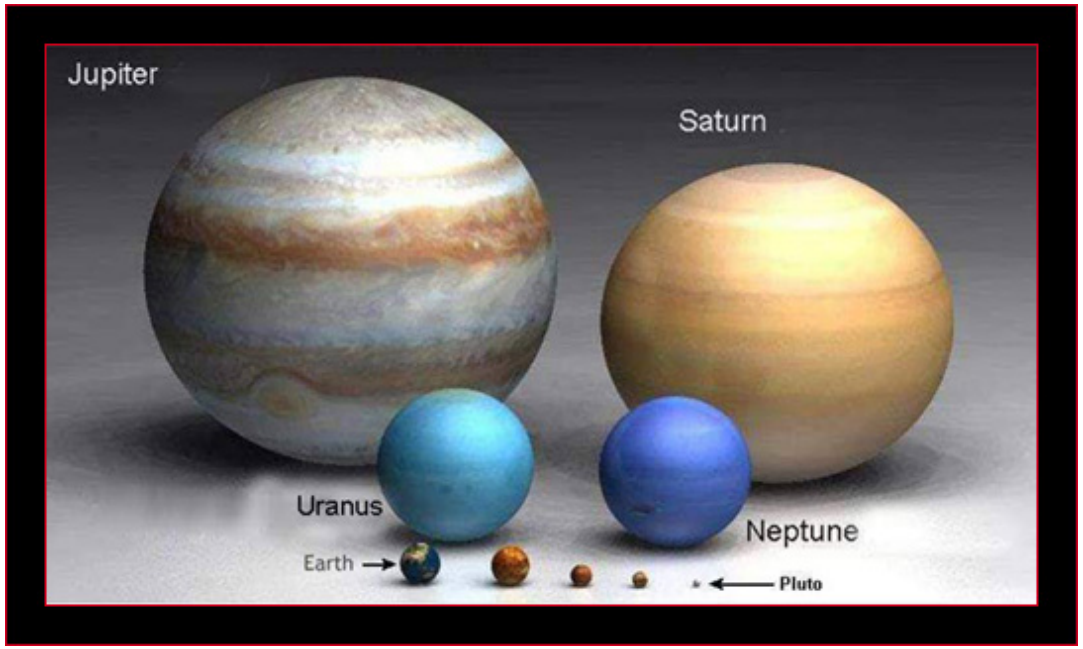
Dimensiuni


Sun
Sirius
Jupiter is about 1 pixel in size
Earth is invisible at this scale
Pollux
Arcturus

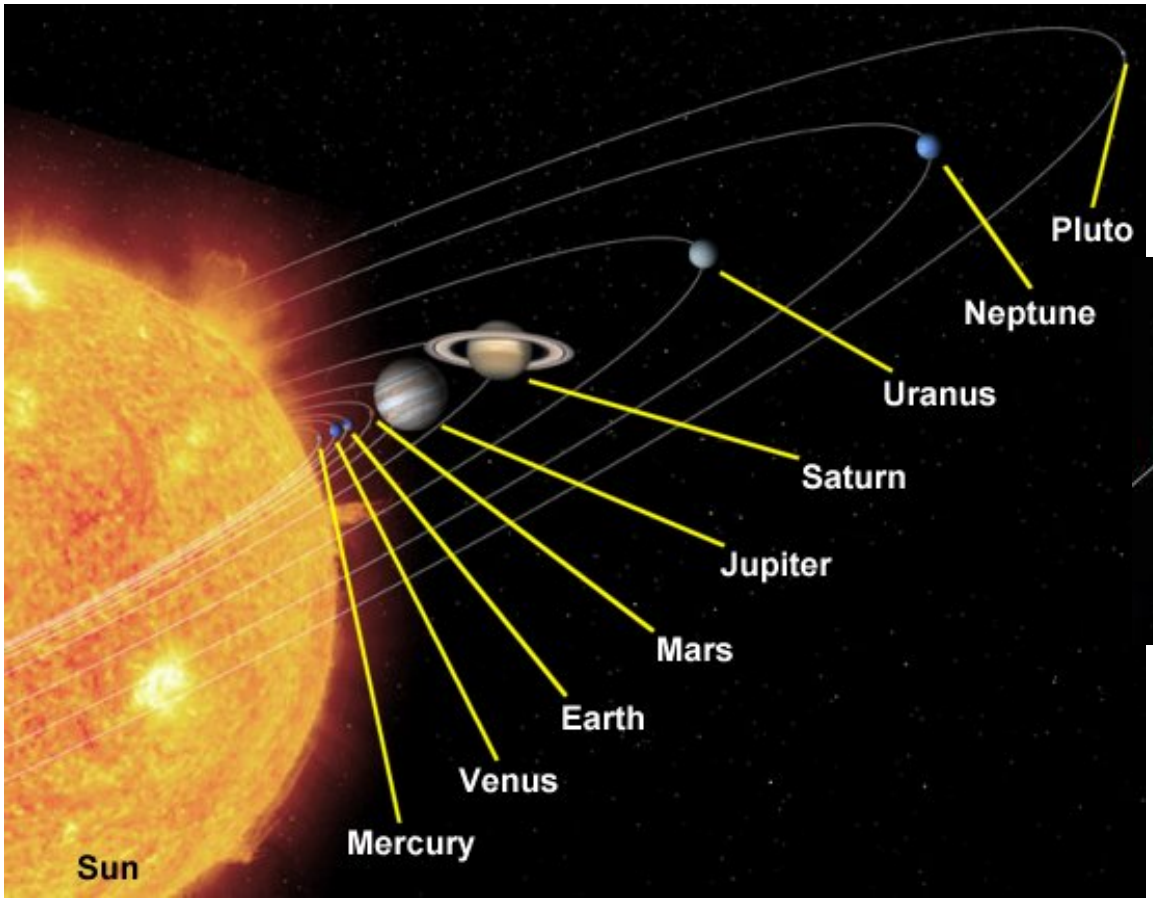

Antares
Betelgeuse
Rigel
Aldebaran

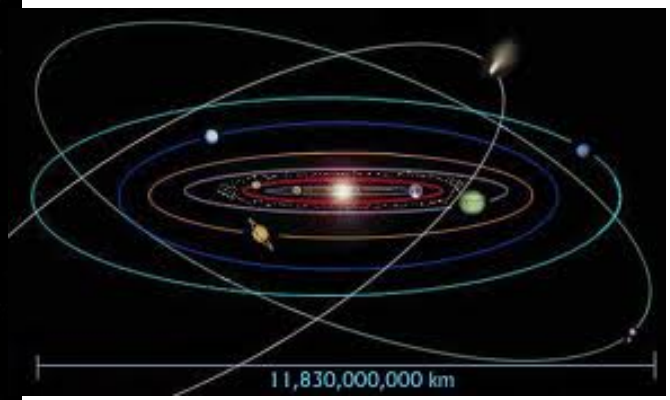
Alte dimensiuni



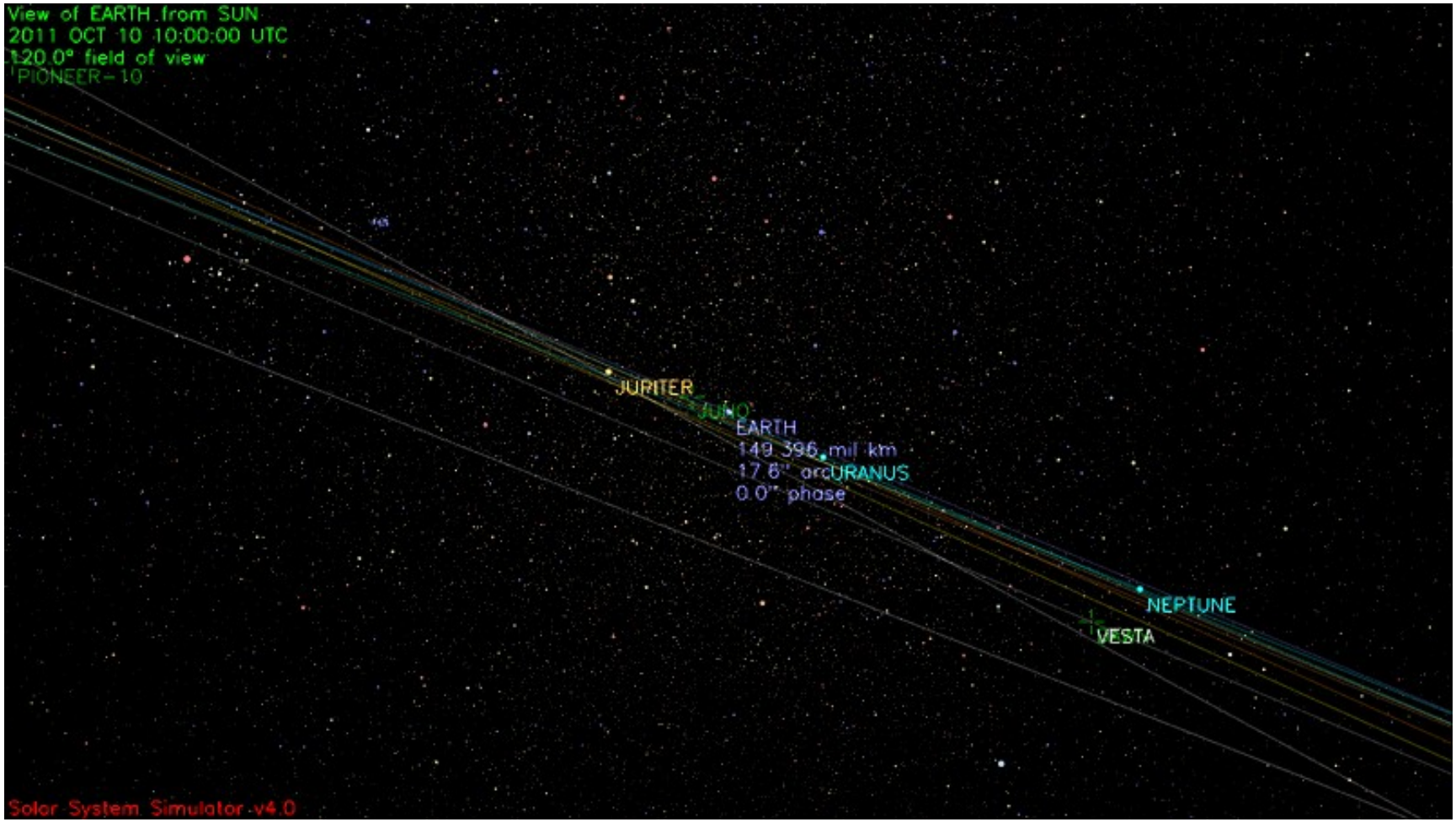


Sistemul solar

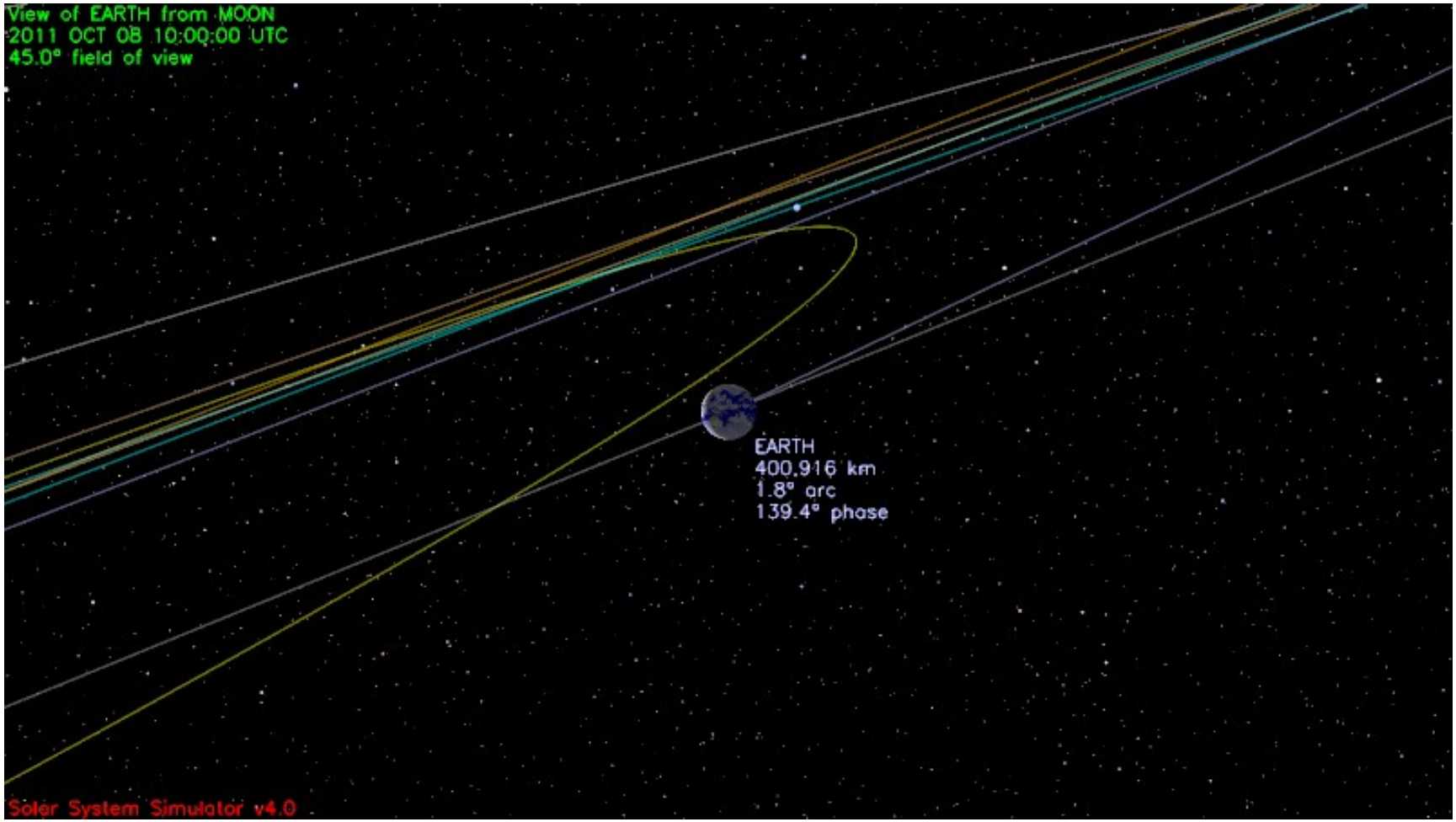




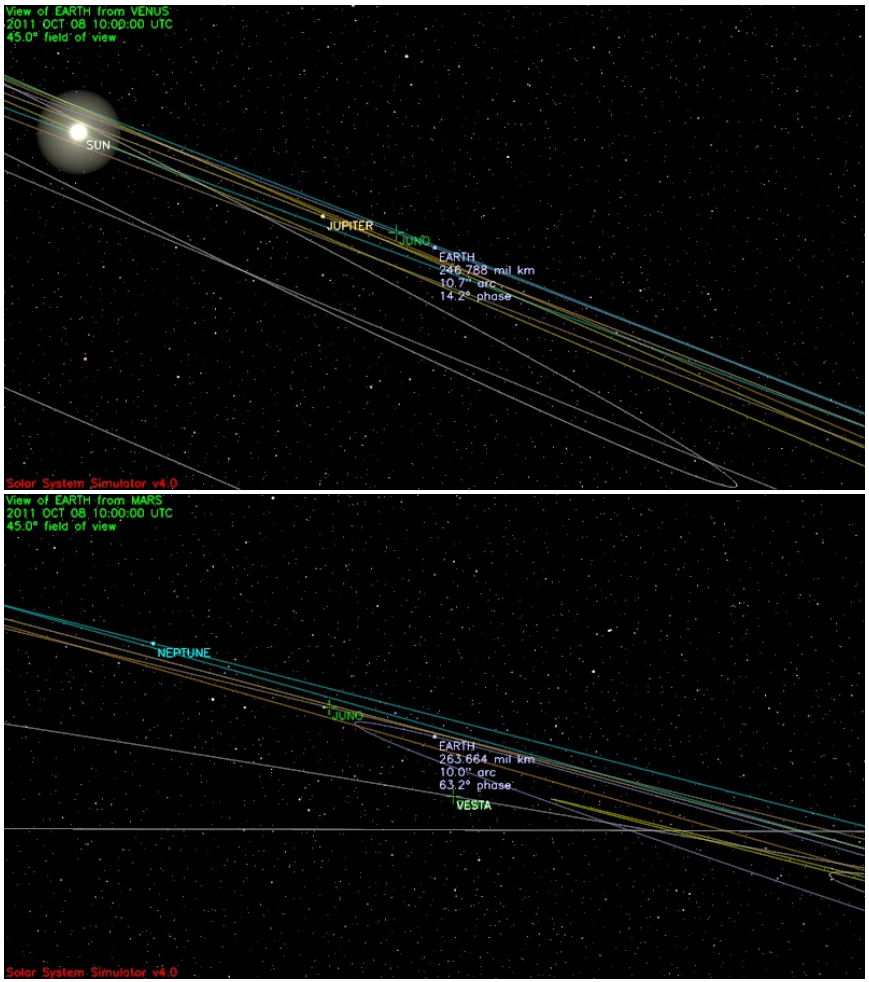
Viziuni diferite



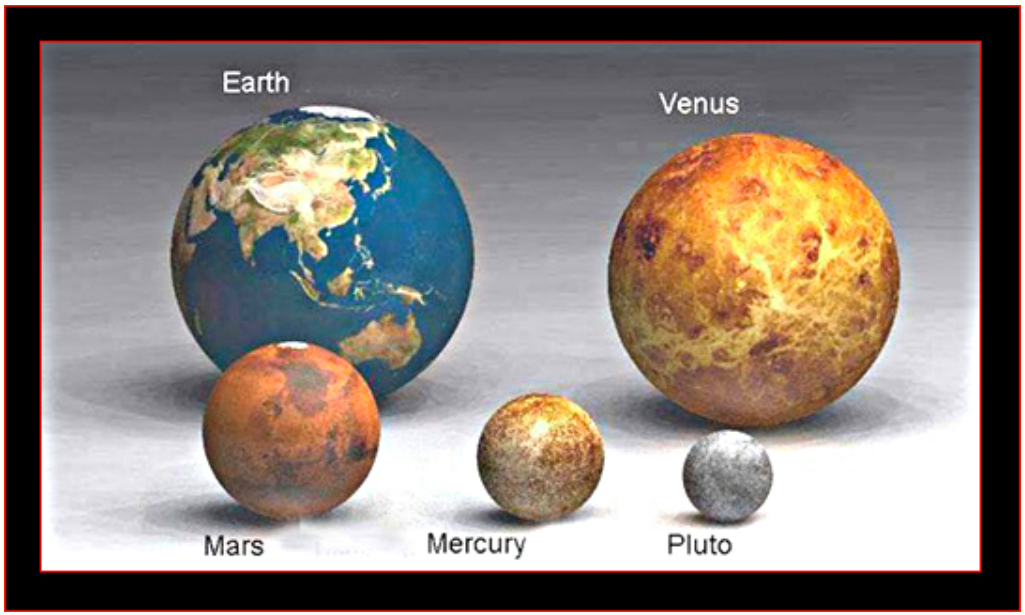
Viziuni diferite



Viziuni diferite

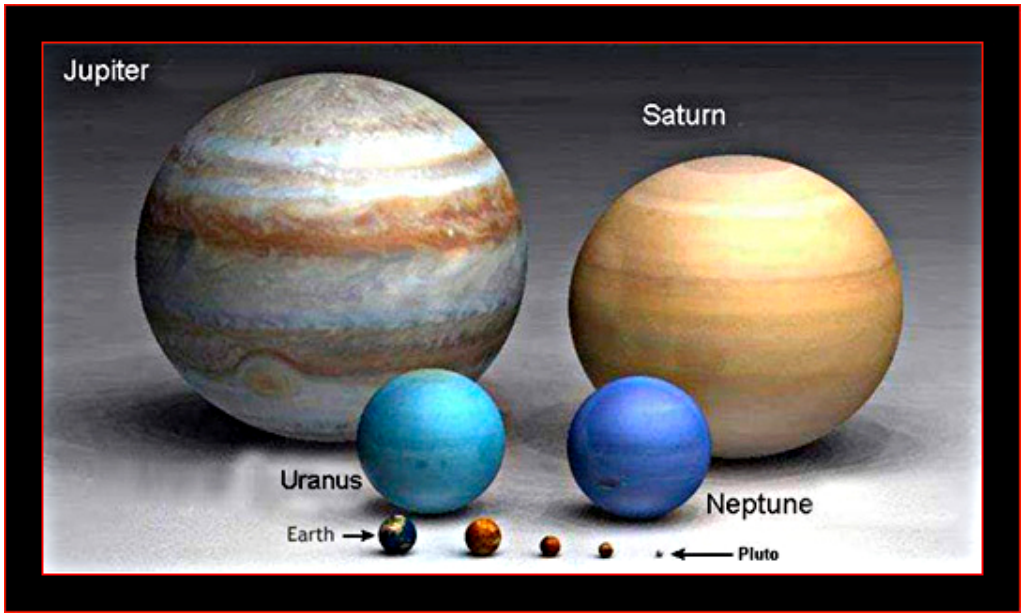


Mercur, Venus, Terra, Marte



Planeta	Raza (km)	$T_{revolutie}$ (zile)	$T_{rotatie}$ (zile)
Mercur	2439	88	58,65
Venus	6057	225	-243
Terra	6353	??	??
Marte	3392	687	24,6 (h)

Jupiter, Saturn, Uranus, Neptun



Planeta	Raza (km)	$T_{revolutie}$ (ani)	$T_{rotatie}$ (ore)
Jupiter	71400	11,86	10
Saturn	60 000	29,5	10 14m
Uranus	25 400	84	-10 49m
Neptun	24300	165	15 40m

Stele

Ce sunt sunt stelele?

Stele

Ce sunt sunt stelele?

O sferă de plasmă luminoasă susţinută de forţa gravitaţională.

Stele

Ce sunt sunt stelele?

O sferă de plasmă luminoasă susţinută de forţa gravitaţională.

Cum se formează?

Stele

Ce sunt sunt stelele?

O sferă de plasmă luminoasă susţinută de forţa gravitaţională.

Cum se formează?

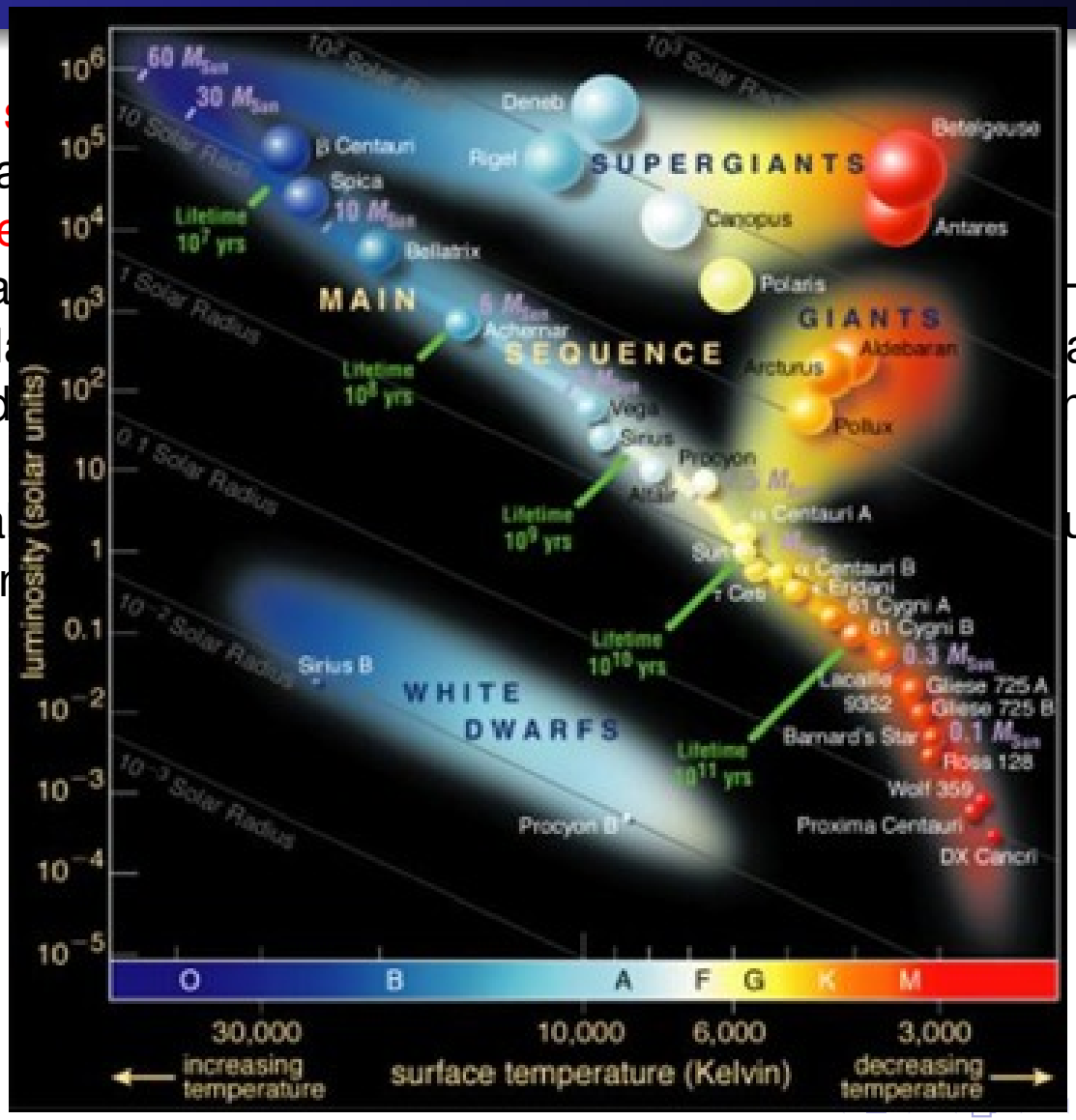
Un nor de material cosmic compus în principiu din hidrogen (+ He şi metale) începe să colapsese la un moment dat datorită forţei gravitaţionale.

Atunci când densitatea este destul de mare o parte din H se transformă în He.

O dată cu stabilirea echilibriului între forţa gravitaţională şi presiunea internă steaua intră în secvenţa principală de viaţă.

Stele

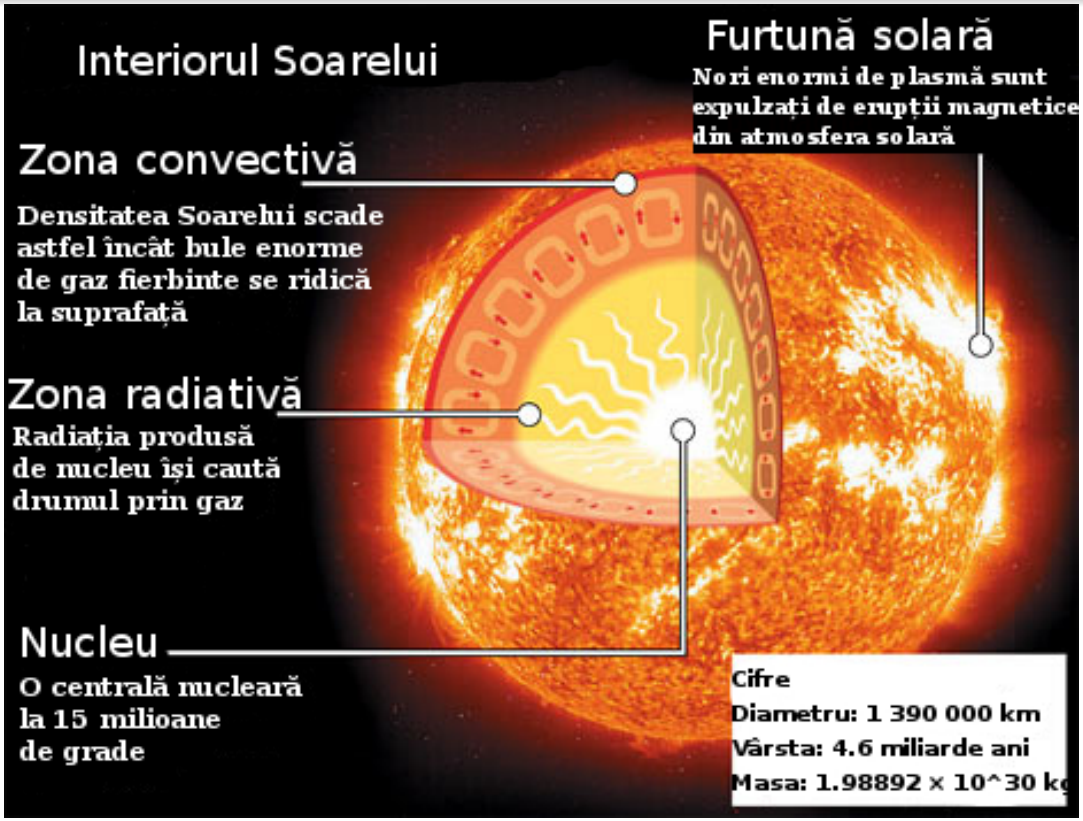
Ce sunt sunt
O sferă de pla
Cum se forme
Un nor de ma He şi metale)
începe să col ale.
Atunci când d nsformă în
He.
O dată cu sta unea internă
steaua intră în



Cifre

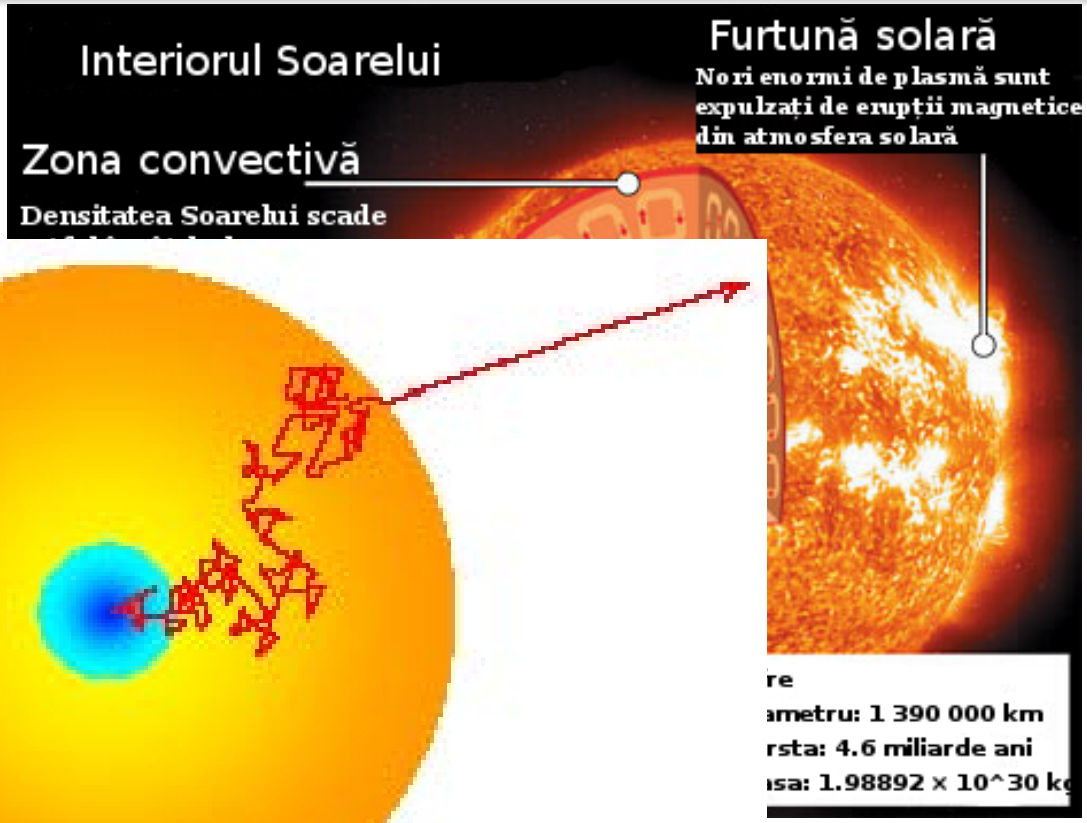
Diametru: 1.4 million km
Vârstă: 4,5 miliarde ani
Masă: 330 000 $\times$ $M_{\text{Pământ}}$
Distanţă de Pământ: 149,6 milioane km
Densitatea medie: 1,41 kg/m^3 (apă=1 kg/m^3)
Densitatea fotosferei: 0,2 g/m^3
Viteza vântului solar: 3 milioane km/h
Luminozitate: 390 miliarde miliarde megawatt
Ciclul solare: 11 ani (8 – 14 ani)
Temperatura la suprafaţă: 5500 ^{o}C
Temperatura în nucleu: 15 milioane ^{o}C
Perioada de rotaţie la ecuator: 24 zile
Perioada de rotaţie la poli: 36 zile

Nucleu, zona radiativă, zona convectivă



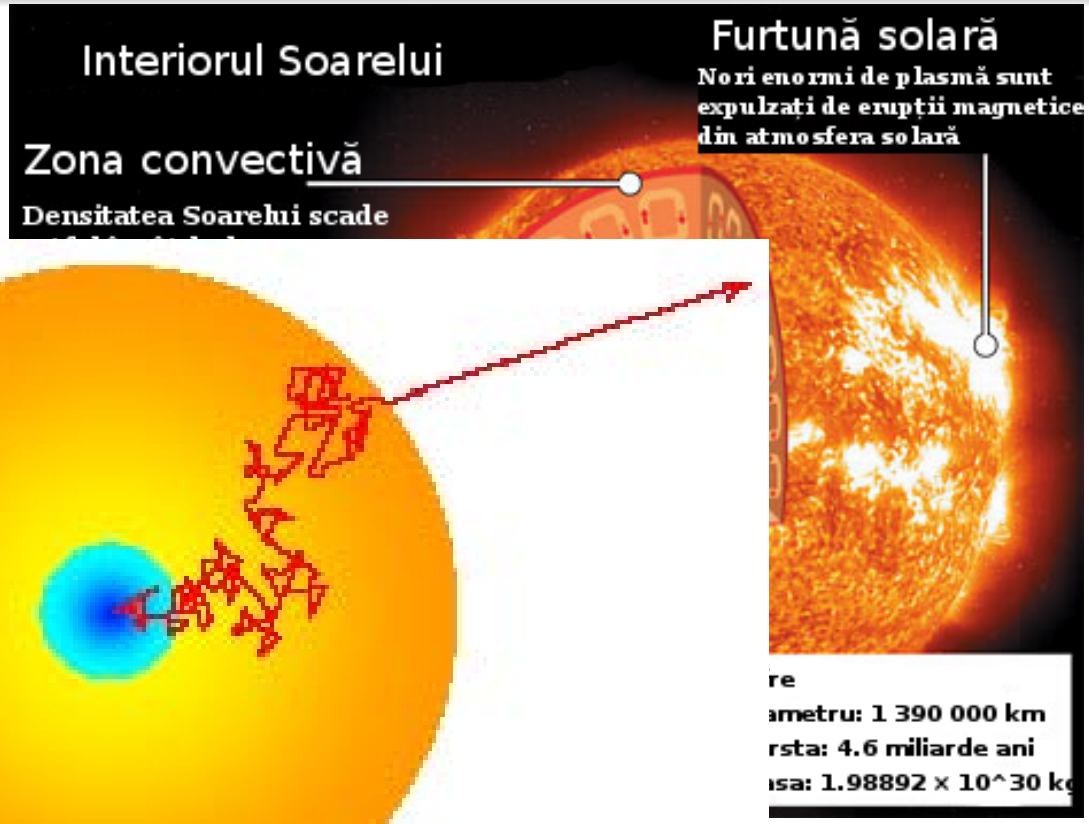
Care este timpul necesar ca radiaţia să ajungă la suprafaţă?

Nucleu, zona radiativă, zona convectivă



ă ajungă la suprafaţă?

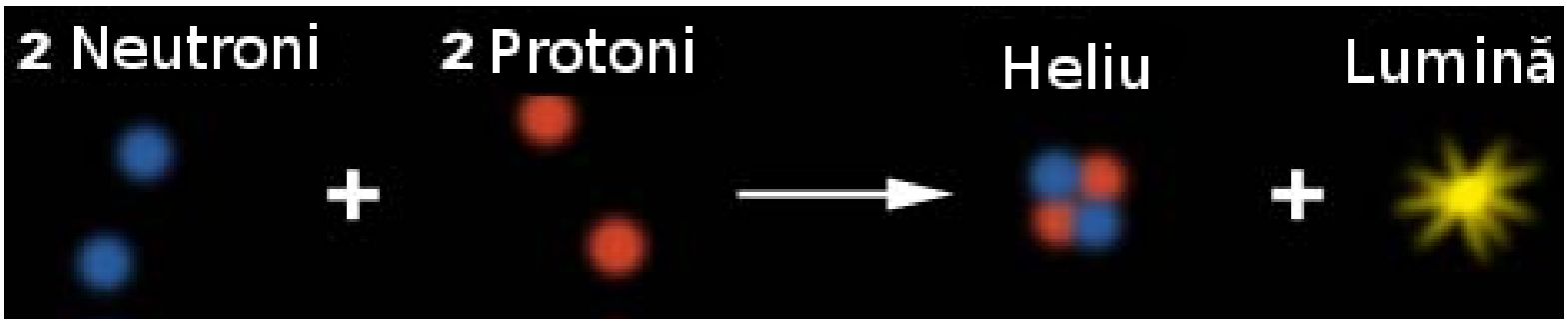
Nucleu, zona radiativă, zona convectivă



ă ajungă la suprafață?

$10^4 - 10^5$ ani

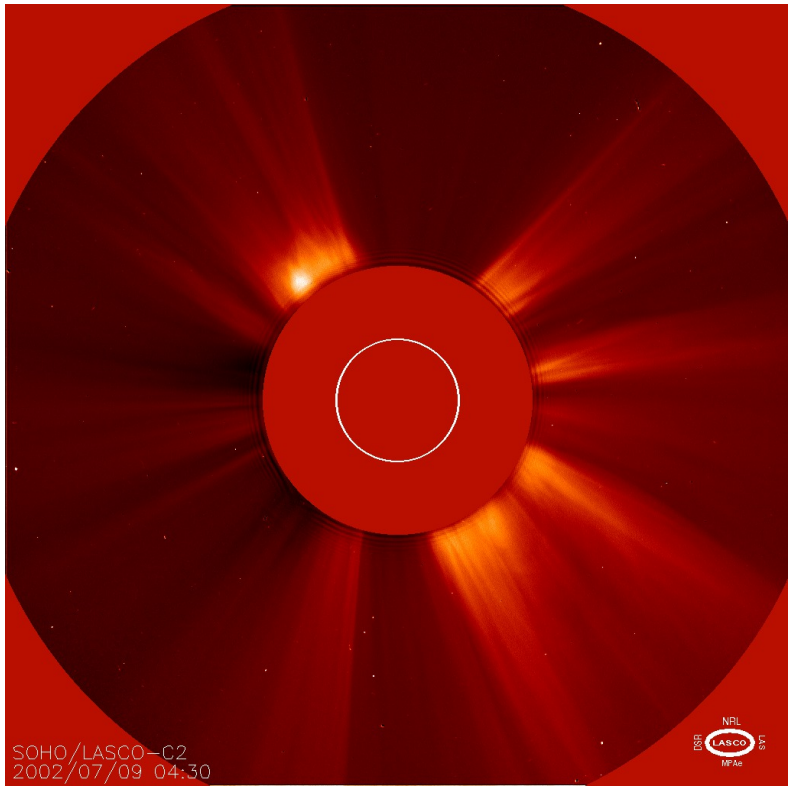
Nucleu

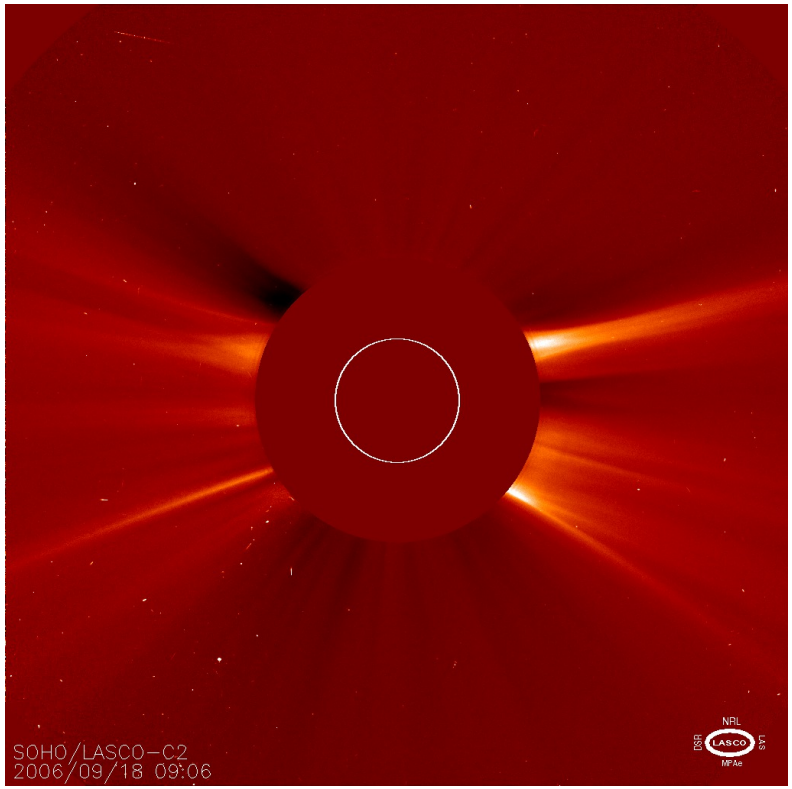


Stratul vizibil – “Suprafaţa"

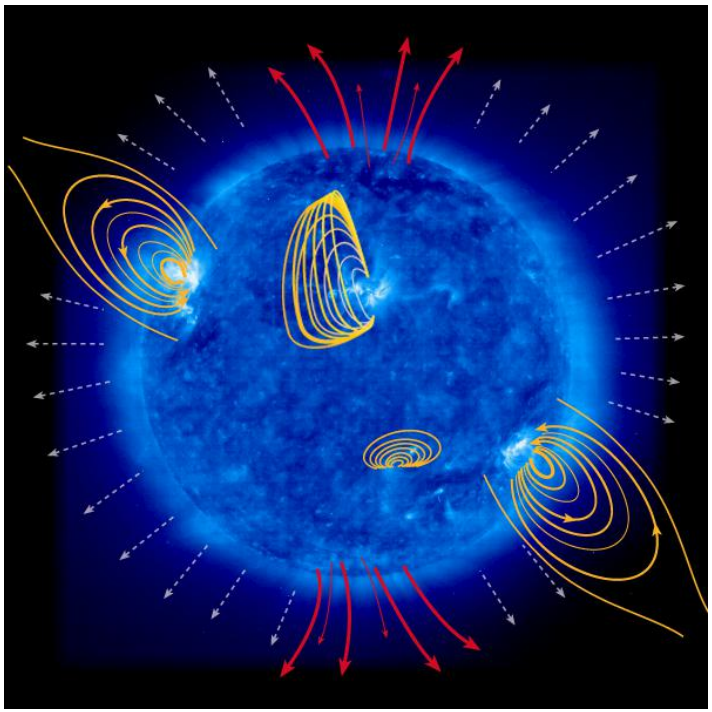
Fotosfera & cromosfera

Coroana

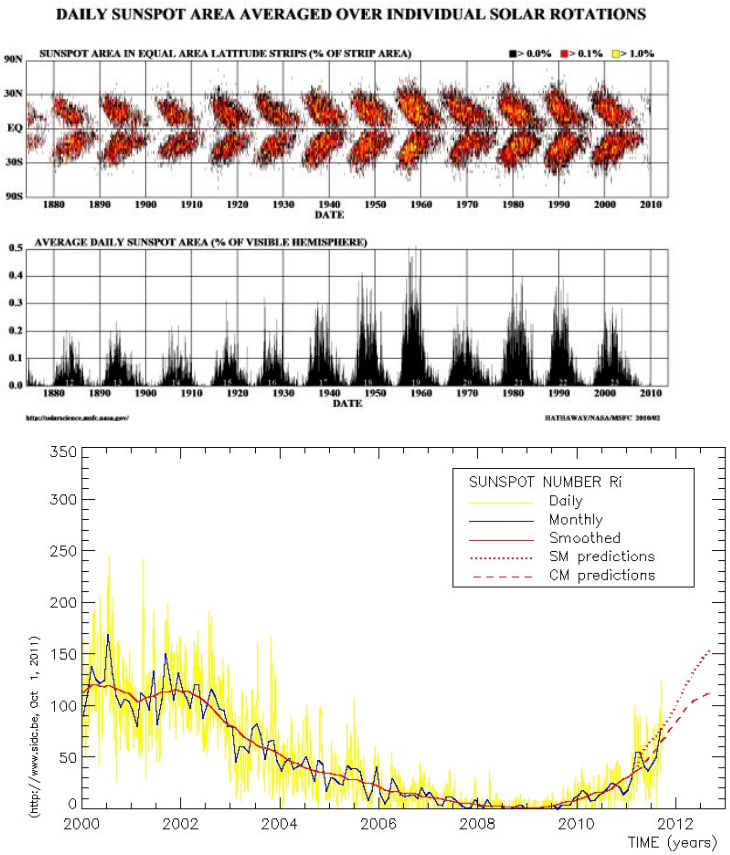

SOHO/LASCO-C2
2002/07/09 04:30
NRL
LASCO
MPAe

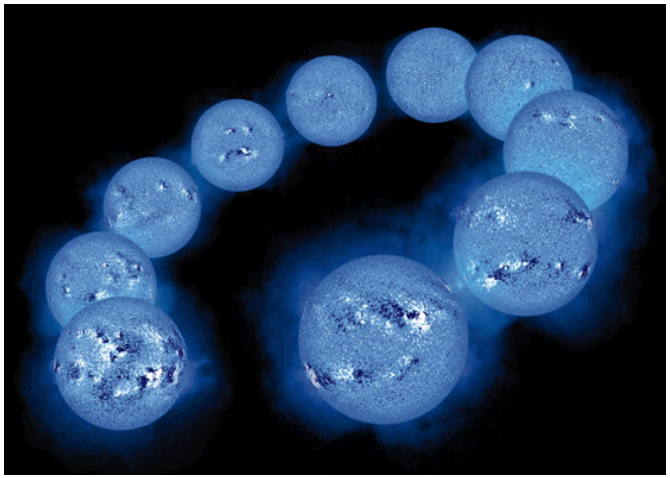

SOHO/LASCO-C2
2006/09/18 09:06
NRL
LASCO
MPAe

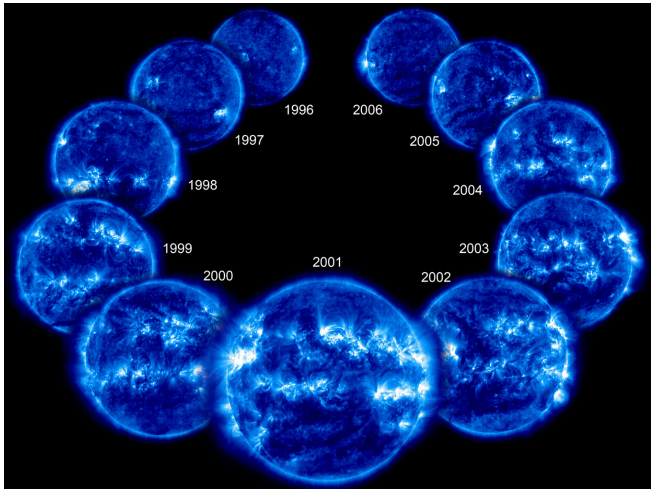
Câmpul magnetic



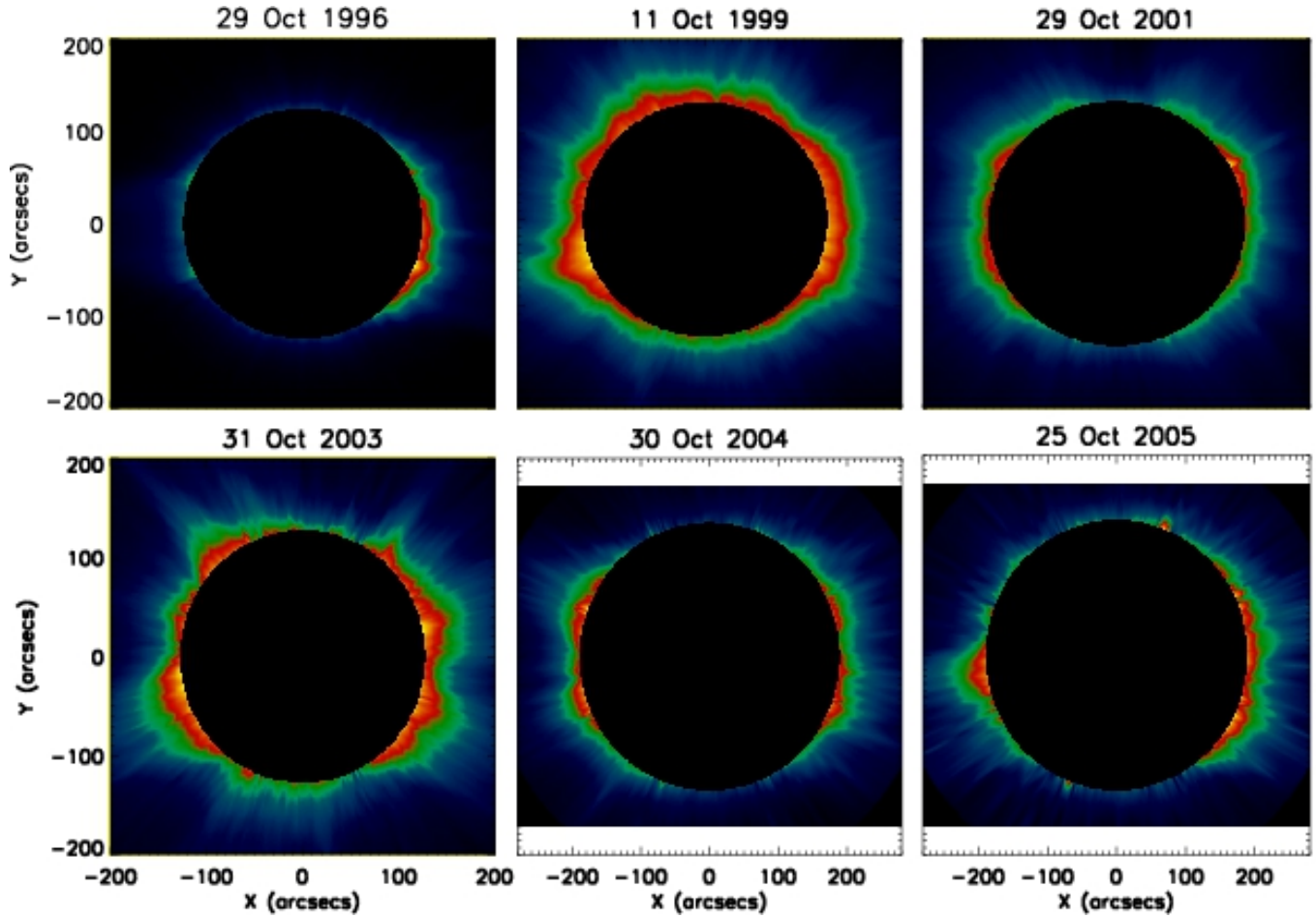
Activitatea solară







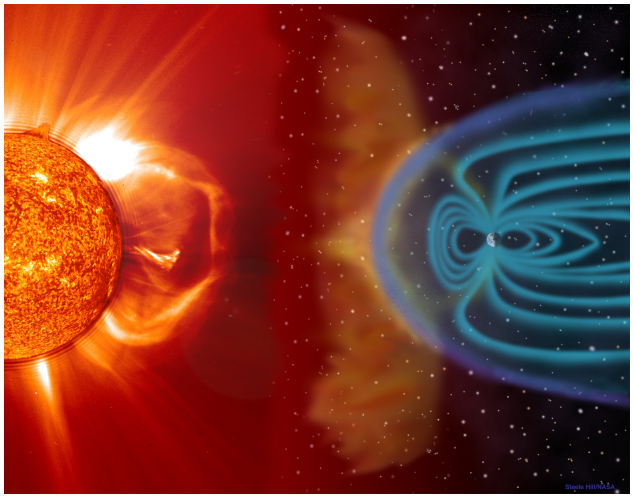
Activitatea solară

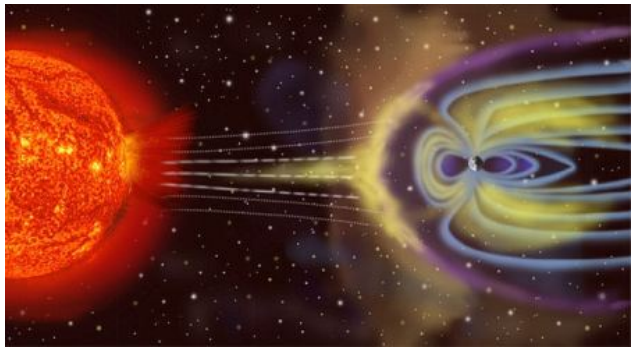


Fenomene eruptive

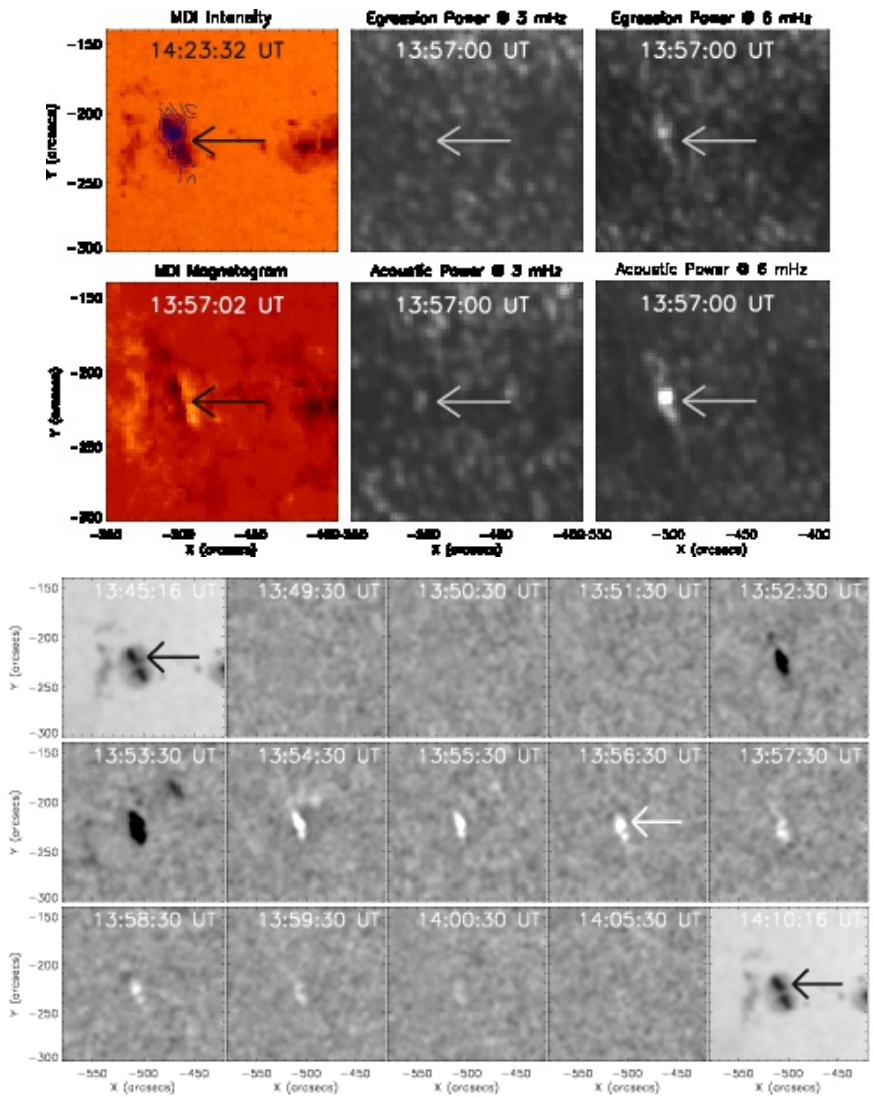
Fenomene eruptive

Vântul solar



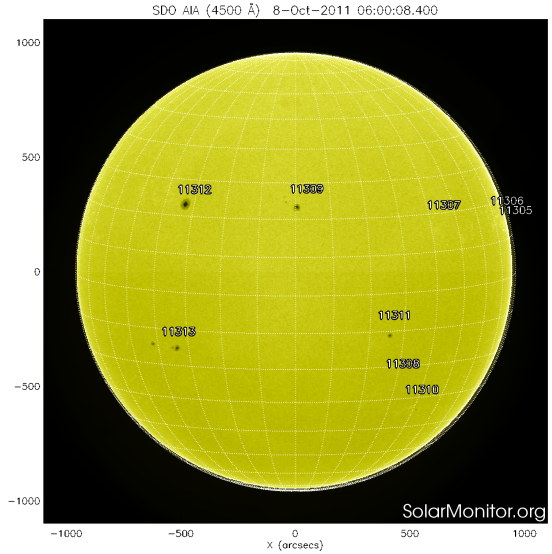


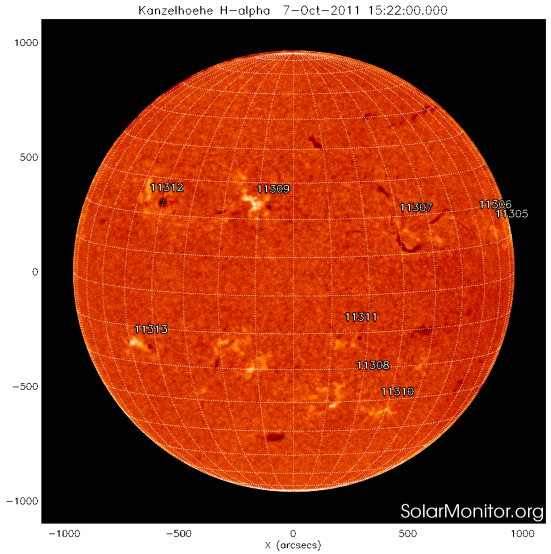
Cutremure solare

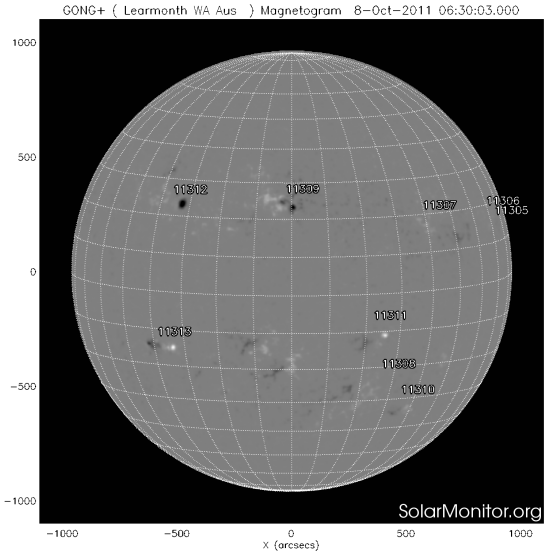


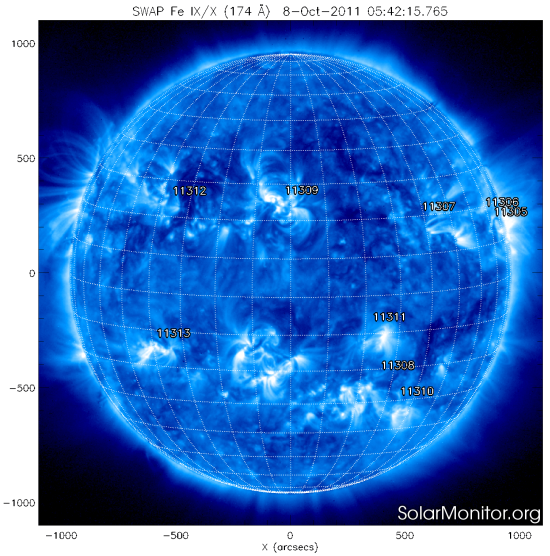
Noutăţi

Soarele azi


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11312
11309
11307
11306
11305
11311
11313
11308
11310
SolarMonitor.org
X (arcsecs)


Kanzelhoehe H-alpha 7-Oct-2011 15:22:00.000
11312
11309
11307
11306
11305
11311
11313
11308
11310
SolarMonitor.org
X (arcsecs)


GONG+ (Learmonth WA Aus) Magnetogram 8-Oct-2011 06:30:03.000
11312
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11307
11306
11305
11311
11313
11308
11310
SolarMonitor.org
X (arcsecs)


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11312
11309
11307
11305
11311
11313
11308
11310
SolarMonitor.org
X (arcsecs)

Să aveţi parte de mult Soare!