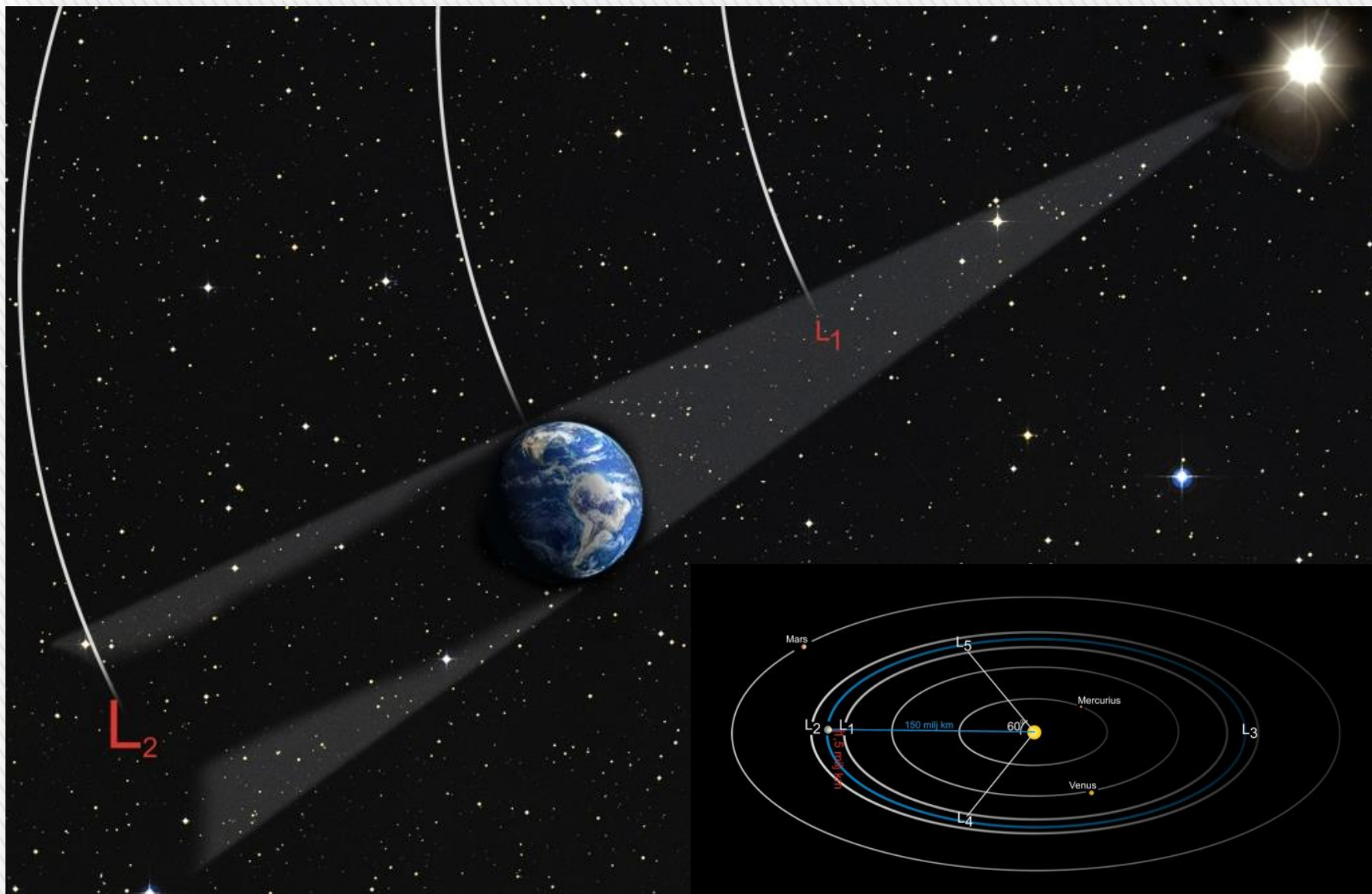


Jorden från rymden



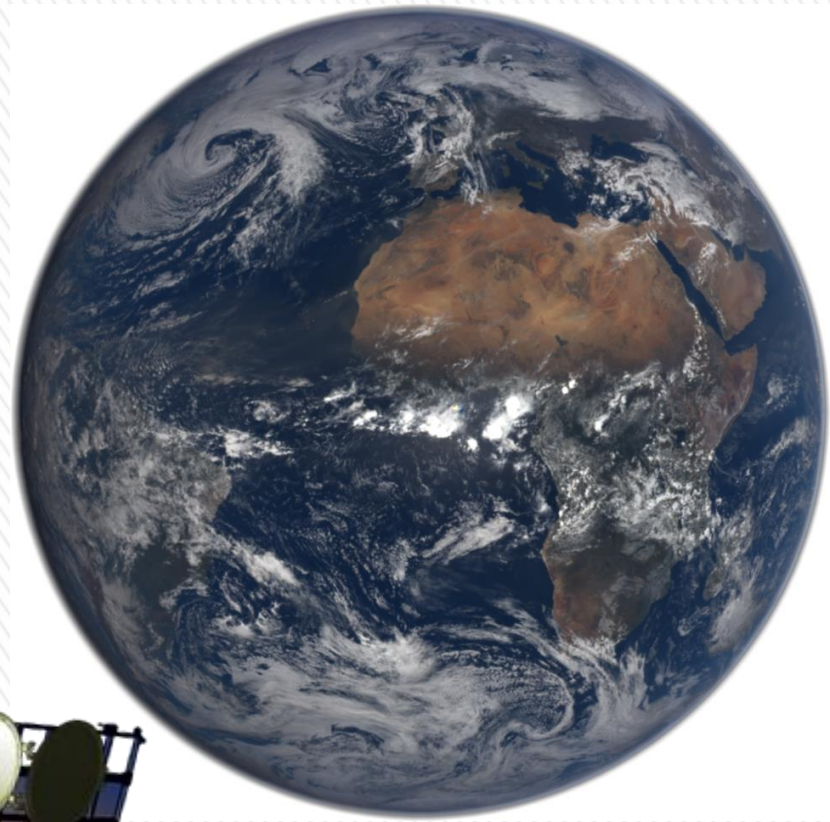
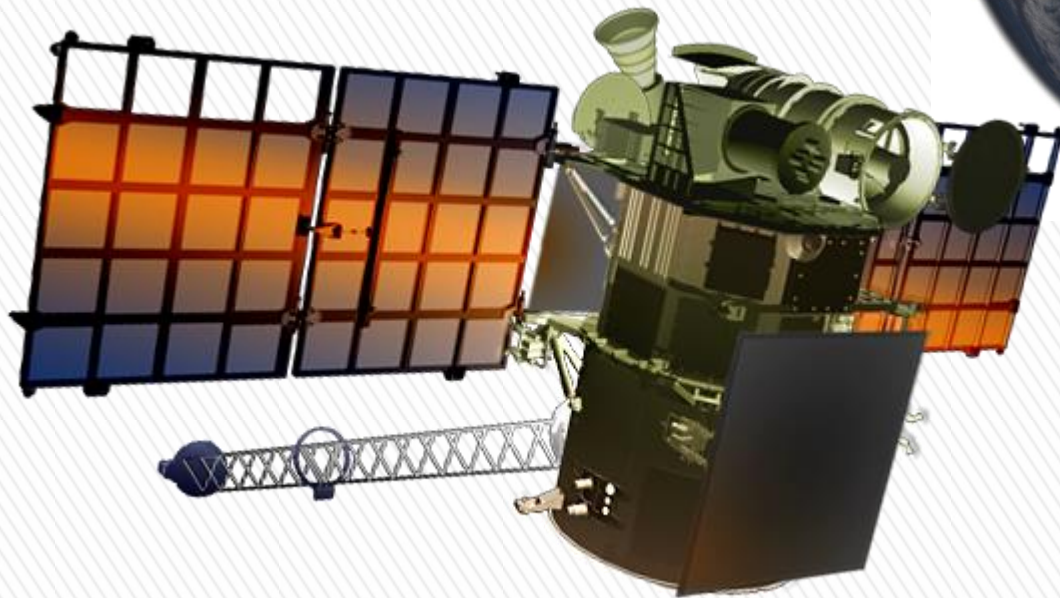
Klimat – mer än en förändring >

Den första kameran i Lagrangepunkt 1



Solobservationssatelliten DSCOVR

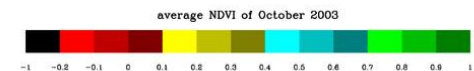
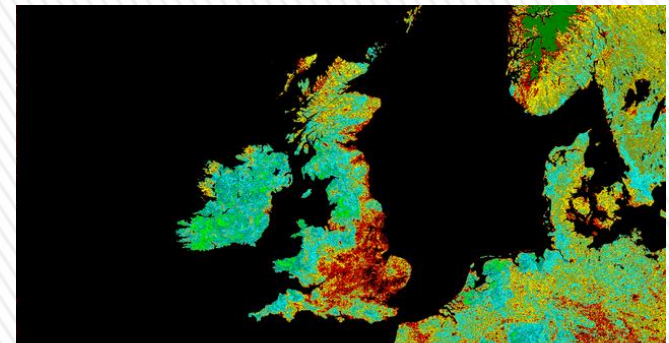
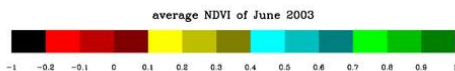
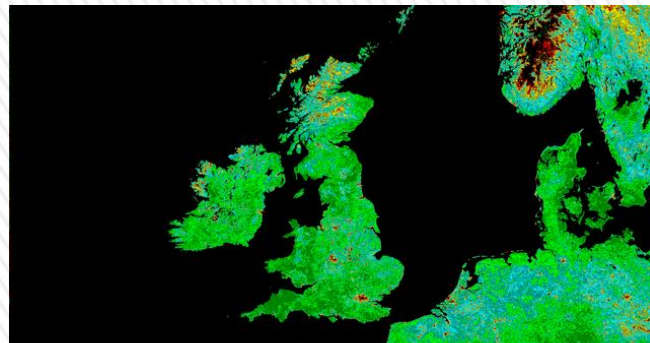
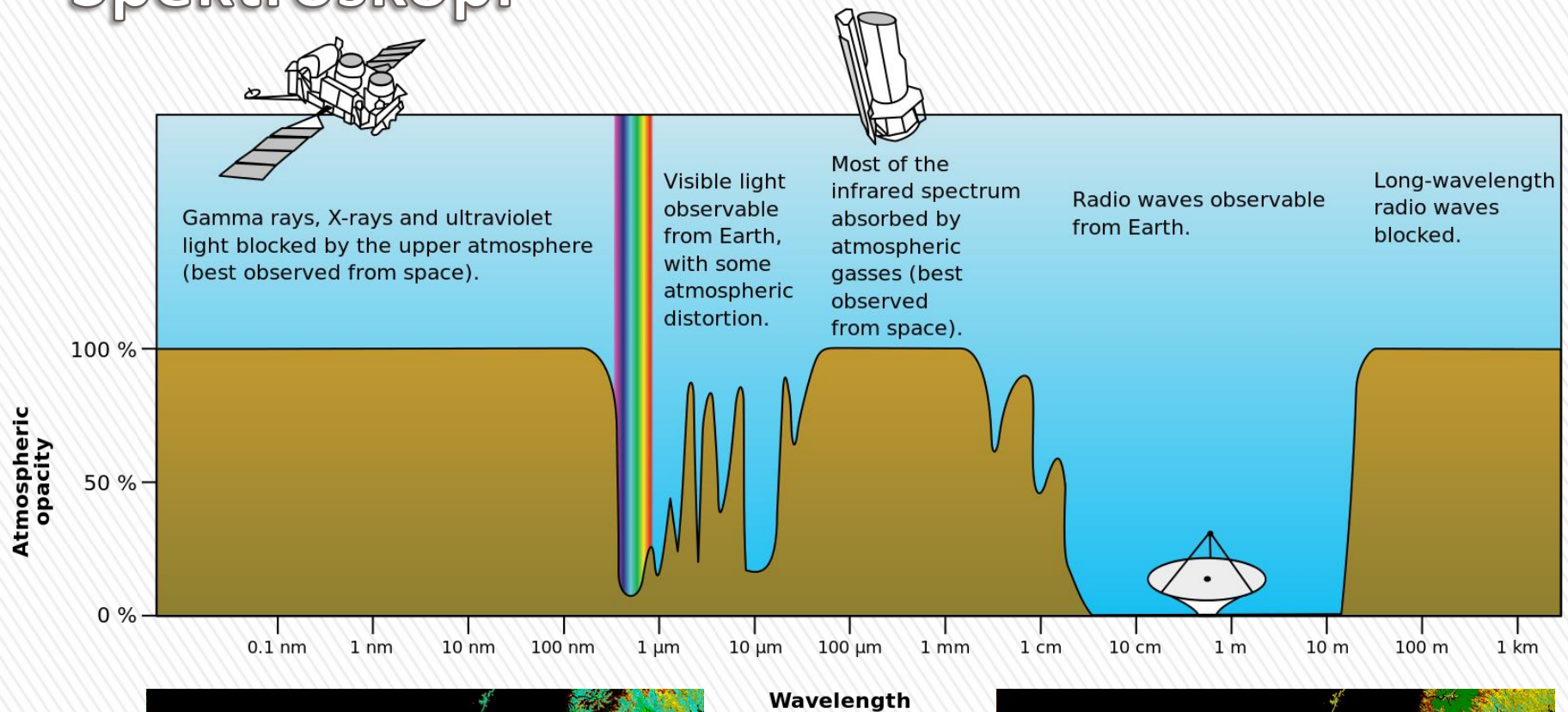
- Övervakar solvinden
- Kameran "EPIC" är den enda som ser hela jorden i sökaren – kontinuerligt.



<https://epic.gsfc.nasa.gov/>



Spektroskopie



The Colors of the Aurora

» Våglängd, grundämnen, energikvanta

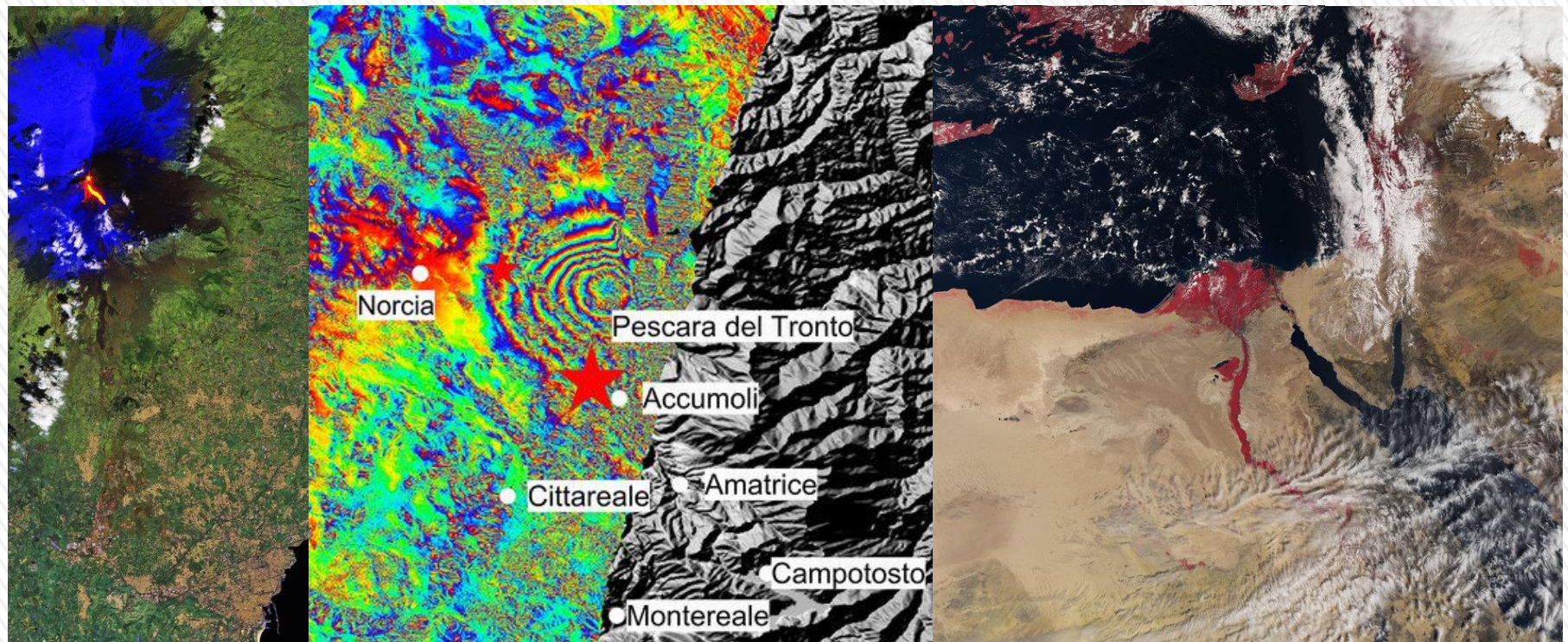
Project STAR Spectrometer			
Common Spectral Lines:			
Energy (eV)	Wavelength (nm)	Due to	Where seen
3.16	393	Calcium	Solar spectrum
3.13	397	Calcium	Solar spectrum
3.07	405	Mercury	Fluorescent light, gas tube
2.86	434	Hydrogen	Sun, gas tube
2.85	436	Mercury	Fluorescent light, gas tube
2.56	486	Hydrogen	Sun, gas tube
2.40	517	Iron	Solar spectrum
2.40	517	Magnesium	Solar spectrum
2.36	527	Iron	Solar spectrum
2.27	546	Mercury	Fluorescent light, gas tube
2.15	577	Mercury	Fluorescent light, gas tube
2.15	579	Mercury	Fluorescent light, gas tube
2.11	589	Sodium	Sol spectrum, match flame
2.11	590	Sodium	Sol spectrum, match flame
1.89	656	Hydrogen	Solar spectrum, gas tube
1.81	687	Oxygen	Solar spectrum

DO NOT POINT DIRECTLY AT THE SUN!! Use white surfaces or clouds to see the solar spectrum.

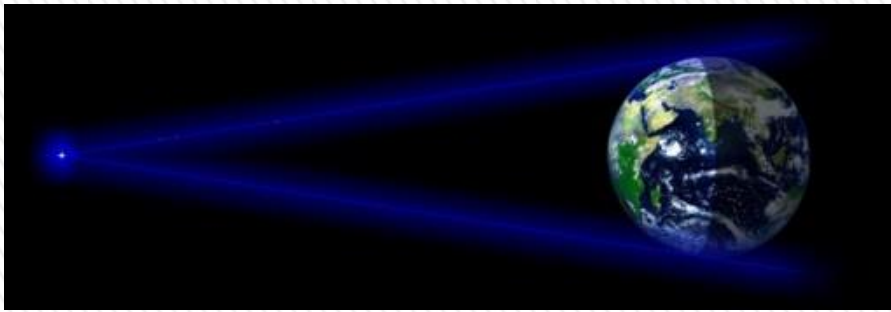


ESA's Sentinel-familj

- Sentinel-1 SAR
- Sentinel-2 13-band multispektrometer
- Sentinel-3 Det hittills mest kompletta verktyget

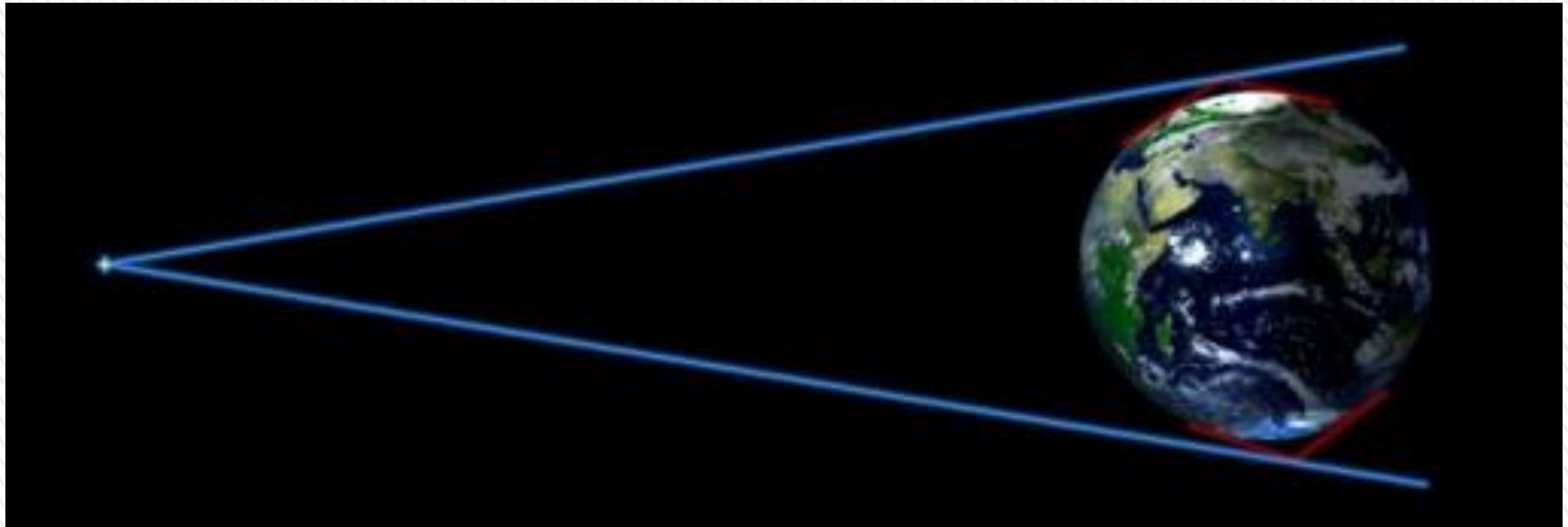
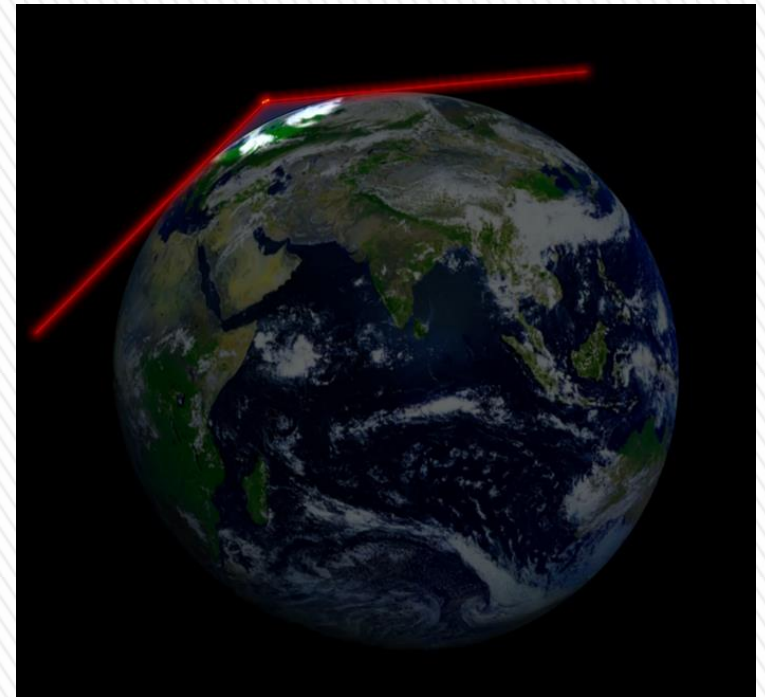


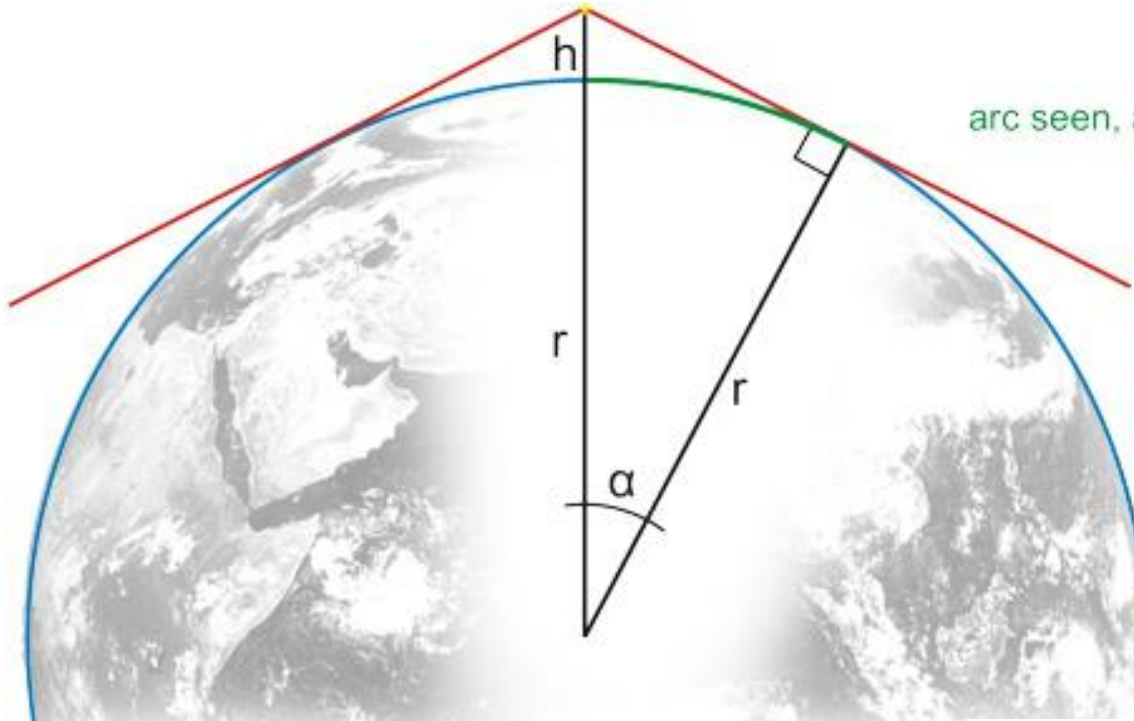
<https://epic.gsfc.nasa.gov/>



Hur får vi informationen från våra satelliter?

- Polar bana
- Geostationär bana
- Lagrangepunkter

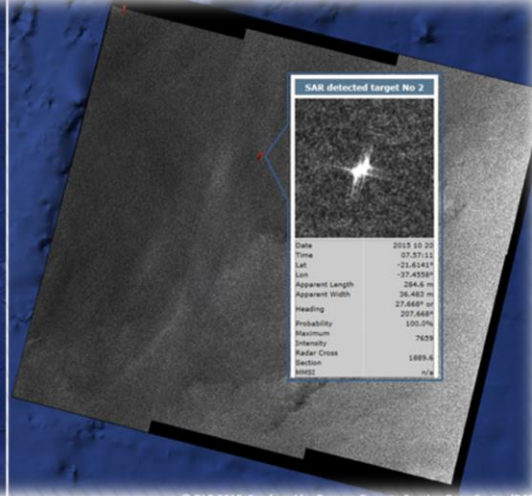




$$\text{arc seen, as} = \frac{\alpha}{360} \cdot 40000 \text{ km}$$

$$\alpha = \cos^{-1}\left(\frac{r}{r+h}\right)$$

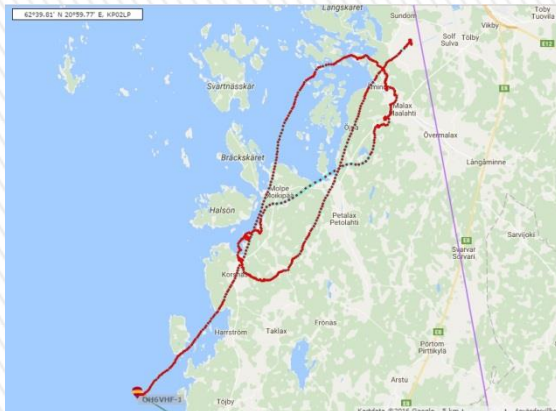
$$\text{as} = \frac{\cos^{-1}\left(\frac{r}{r+h}\right)}{360} \cdot 40000 \text{ km}$$



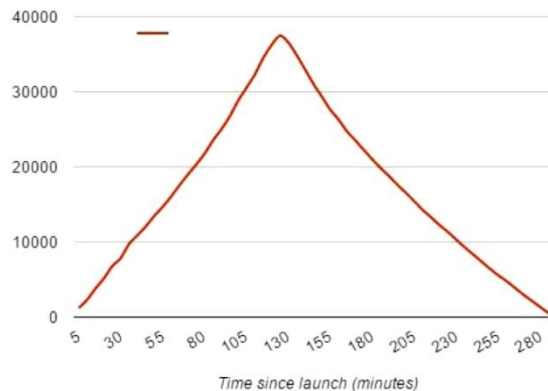
© EUR 2015. Produced by German Remote Sensing Data Center (DFV)



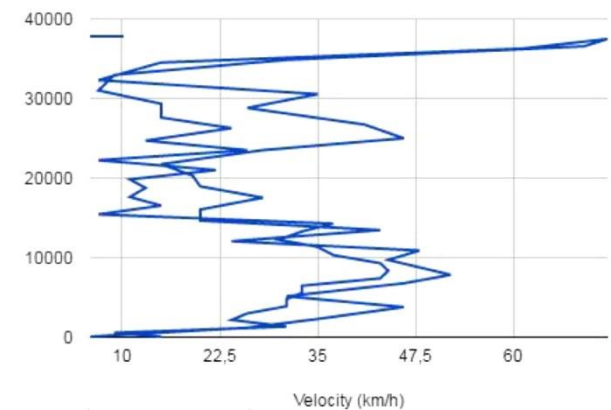
Nordic Talents on Science Camp



Altitude (meters) against Time since launch (minutes)



Altitude against Velocity





edugalaxen.wordpress.com
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Jan Holmgård @ edugalaxen



Thanx! ➤