INTERNATIONAL
YEAR OF LIGHT
2015

Antefatto

Con l'approvazione del Consiglio di Amministrazione dell'UNESCO, nel Novembre 2012 alcuni scienziati di fama mondiale sono stati invitati all'Assemblea Generale delle Nazioni Unite, prevista per Maggio 2013, per presentare una proposta per stabilire un Anno Internazionale della Luce

Anniversari celebri

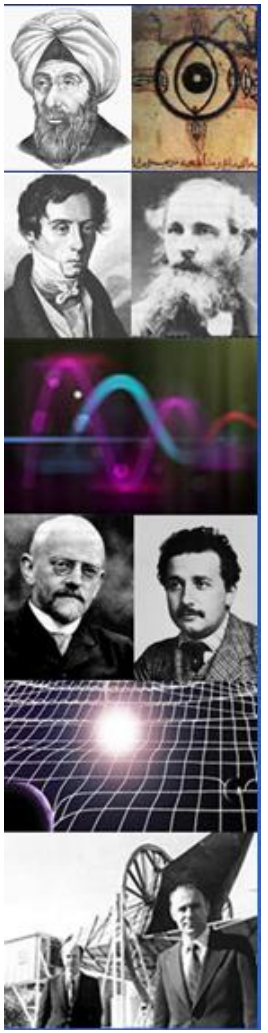
1015 Ibn Al Haythem *Book of Optics*

1815 Fresnel e la natura ondulatoria della luce

1865 Maxwell, pubblica le sue equazioni

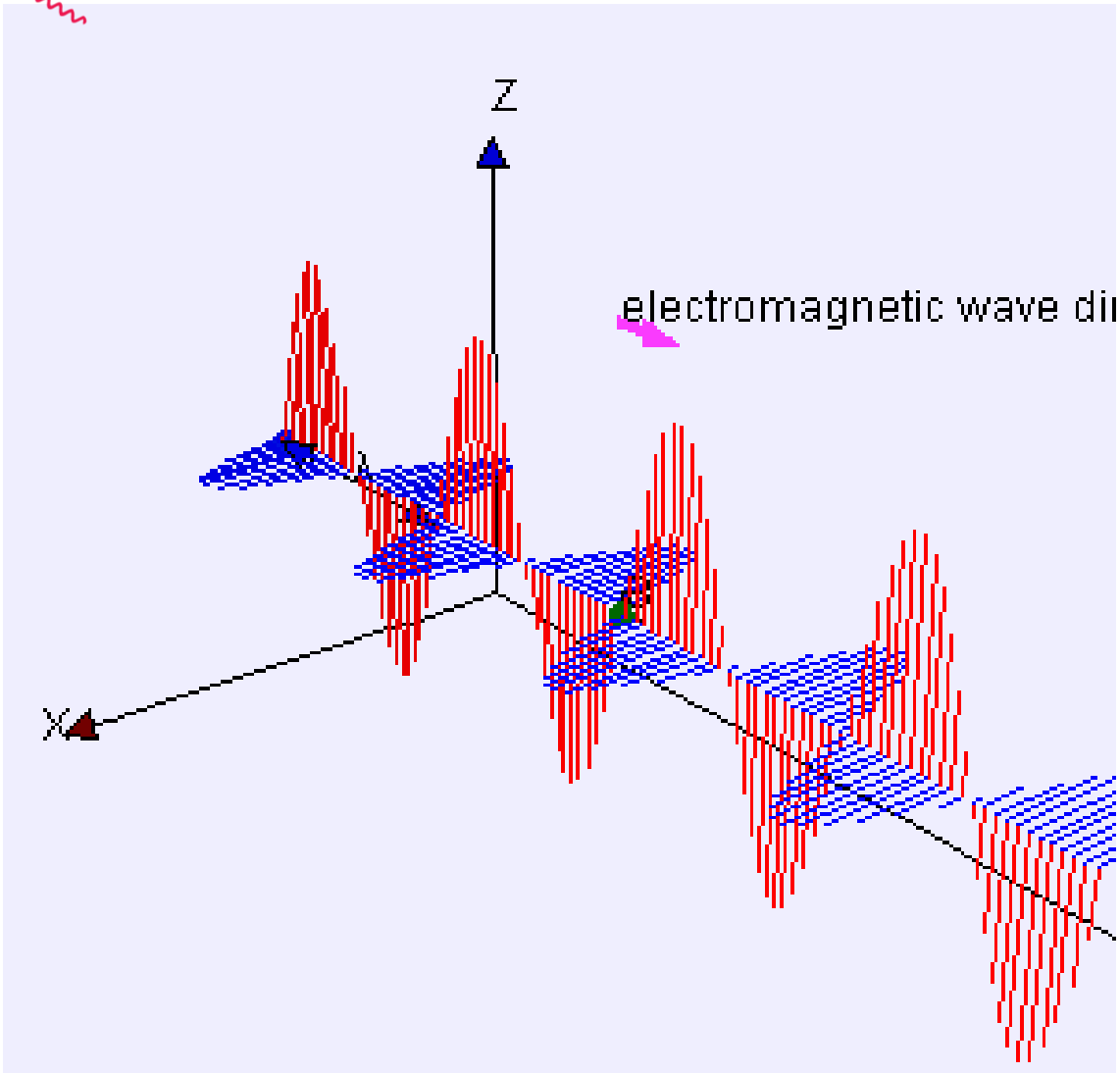
1915 Einstein, Relatività Generale

1965 Radiazione cosmica di fondo, Charles Kao e la tecnologia delle fibre ottiche



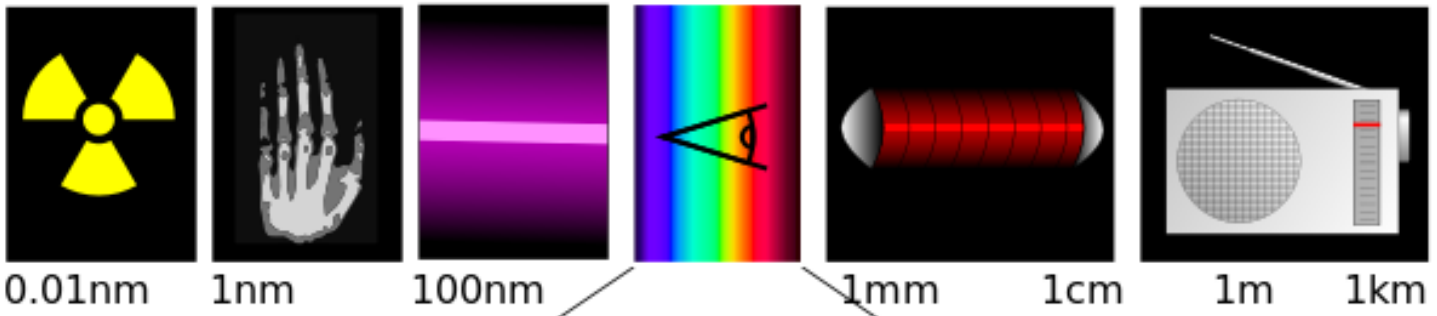
Cos'è la luce?

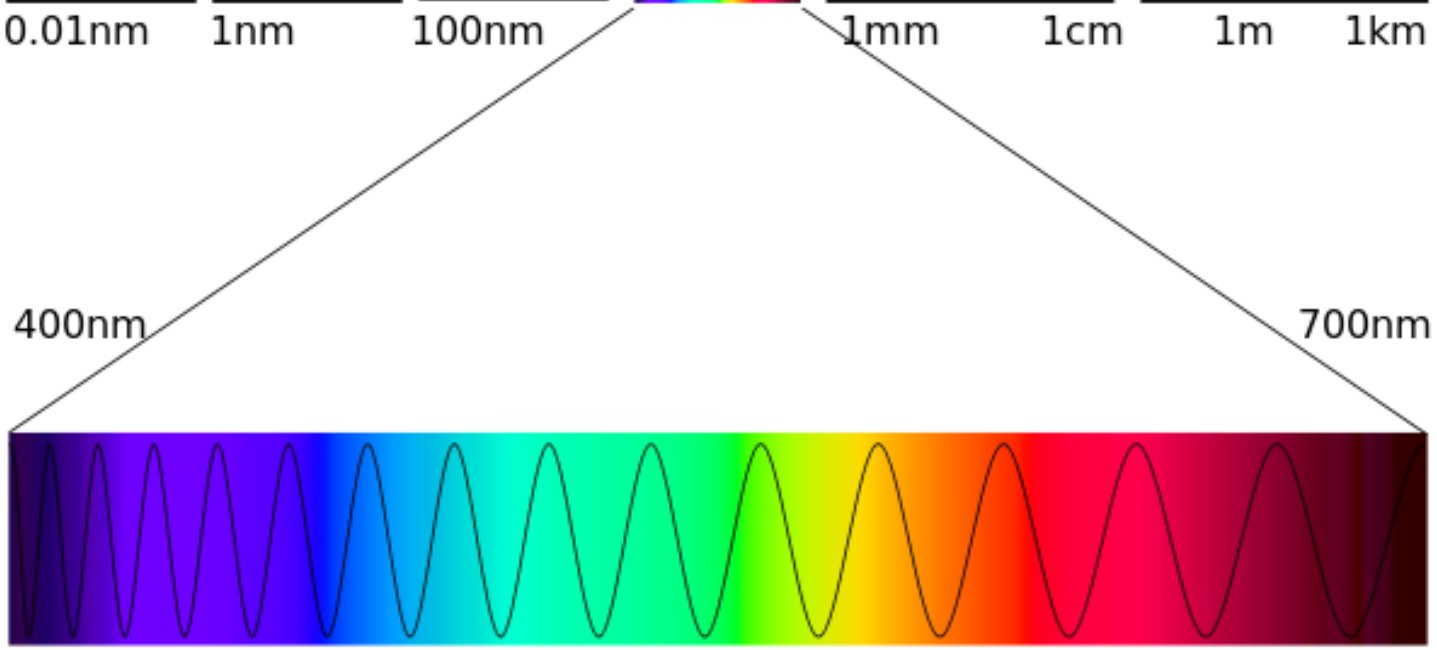
Onda elettromagnetica



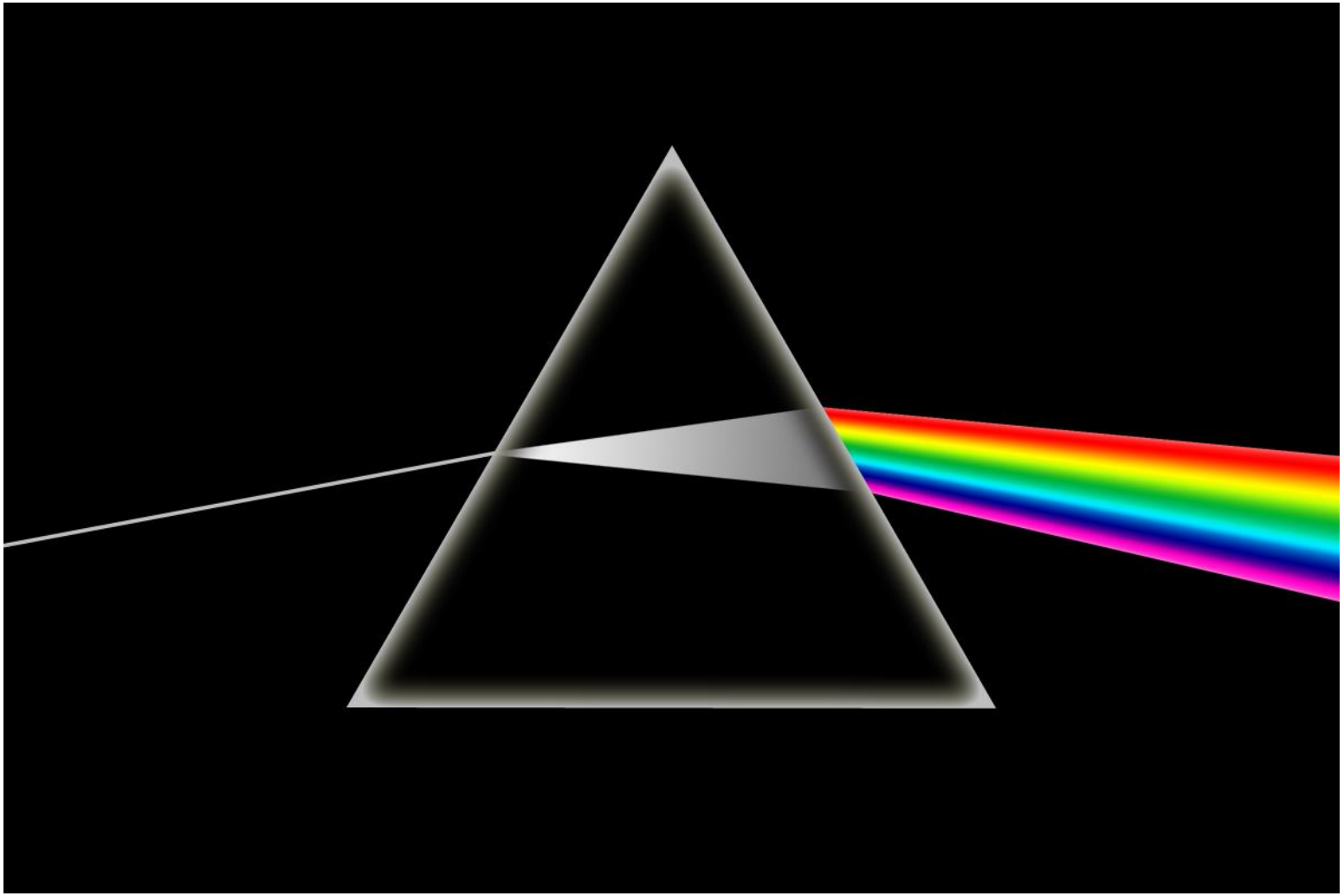
Spettro Elettromagnetico

$$\lambda \nu = c$$

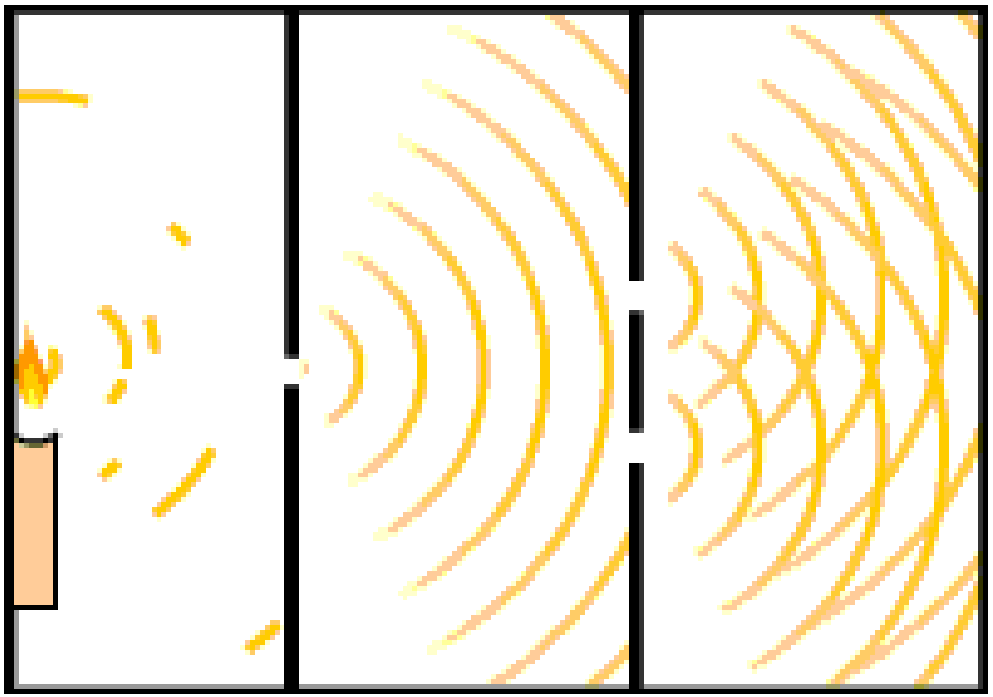


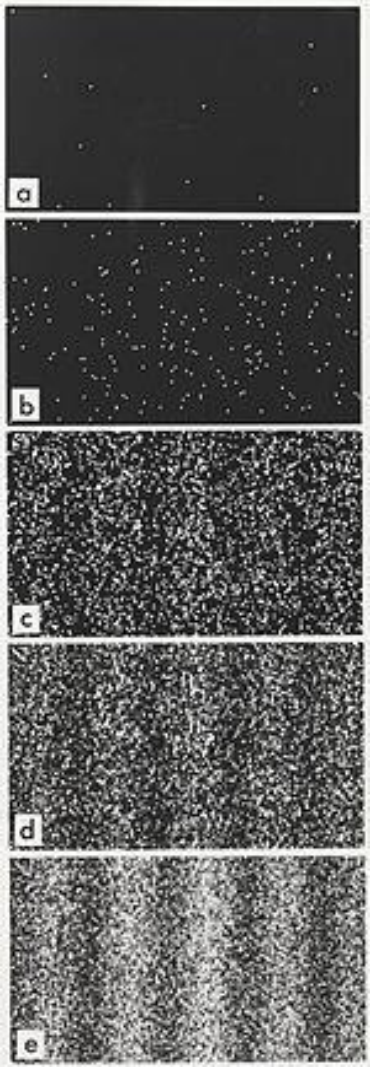


Dispersione luce

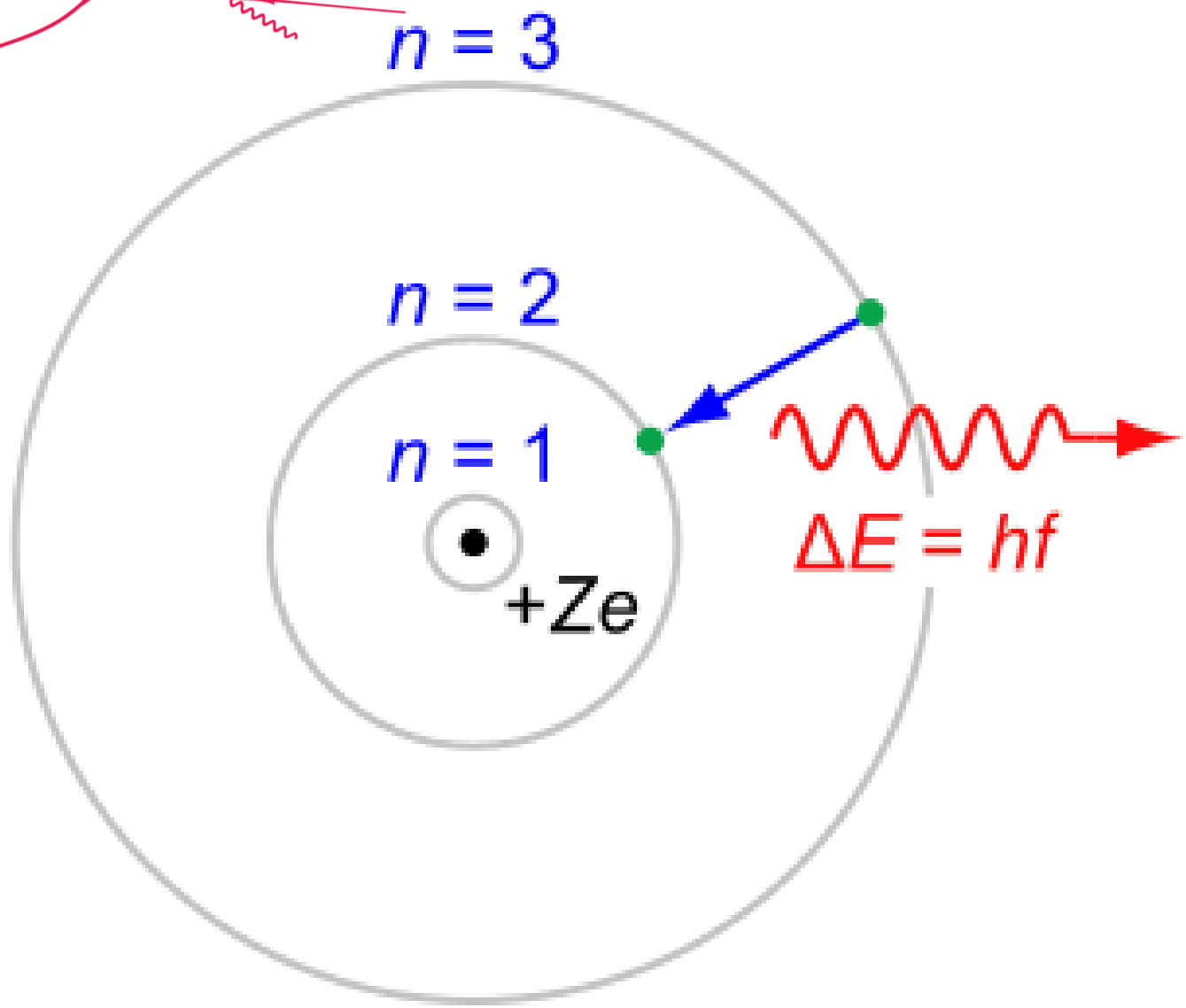


Dualismo onda-particella





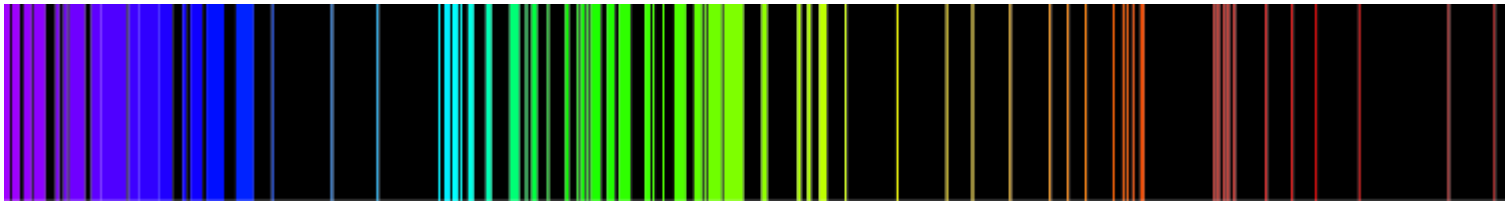
Orbitali atomici



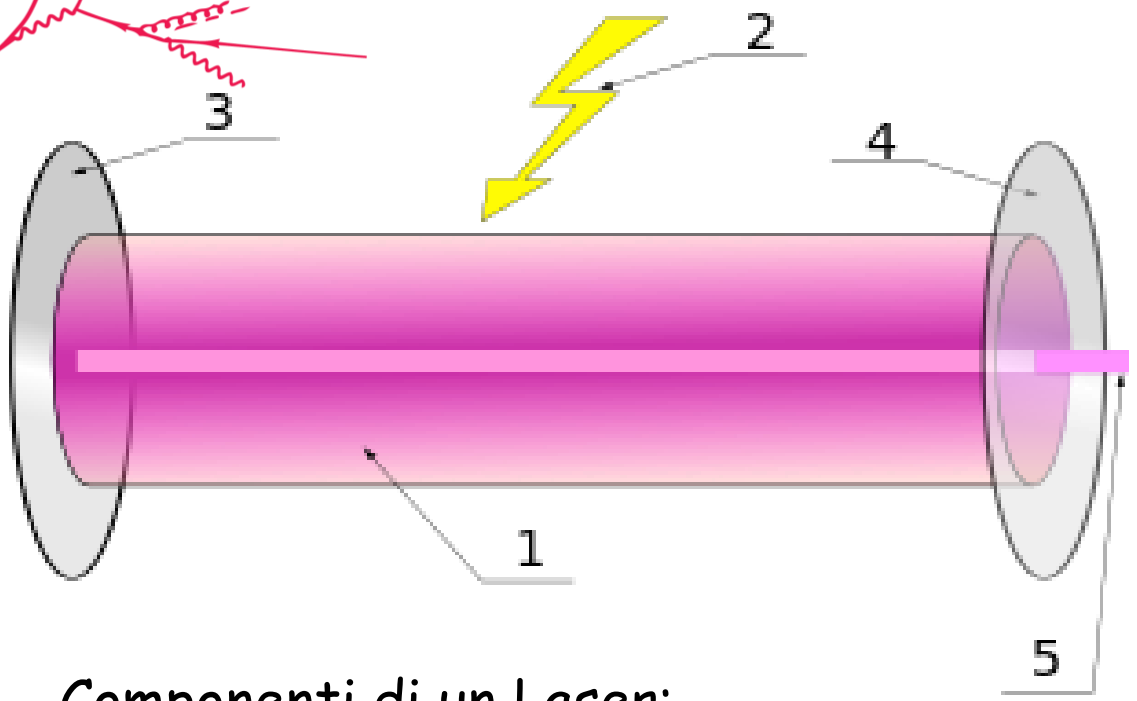
Spettri di emissione

Idrogeno un solo elettrone

Ferro 26 elettroni

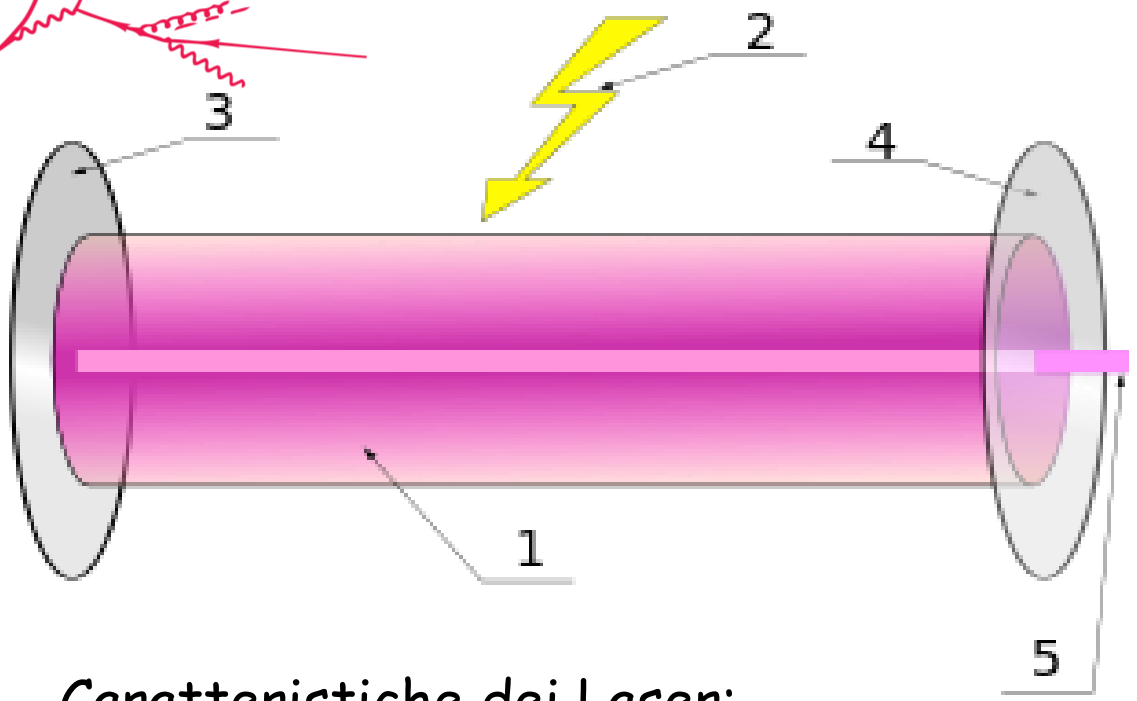


Laser, componenti



Componenti di un Laser:
1) Mezzo ottico attivo
2) Energia fornita al mezzo ottico
3) Specchio
4) Specchio semiriflettente
5) Fascio laser in uscita

Laser, caratteristiche

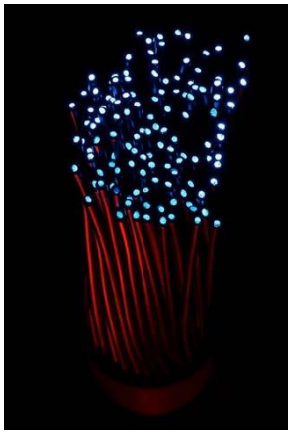


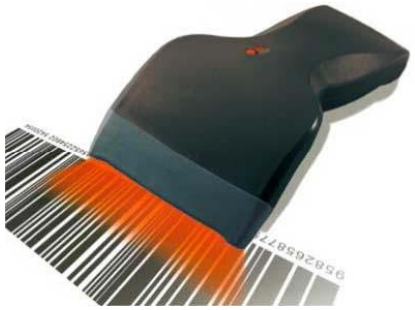
Caratteristiche dei Laser:

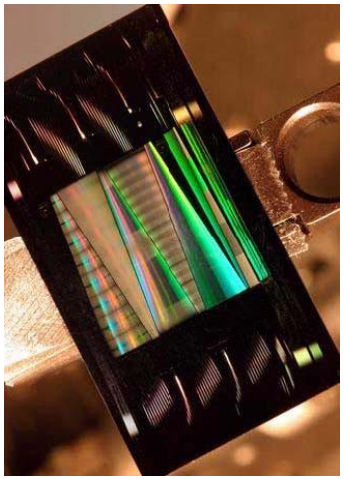
a) Direzionalità
b) Monocromaticità
c) Brillanza
d) Coerenza
e) Impulsi ultra-brevi

Theodore Maiman

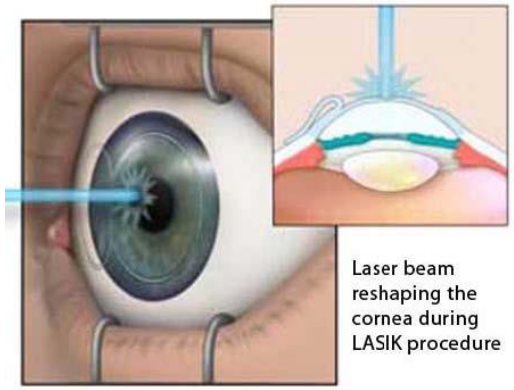
Applicazioni del Laser





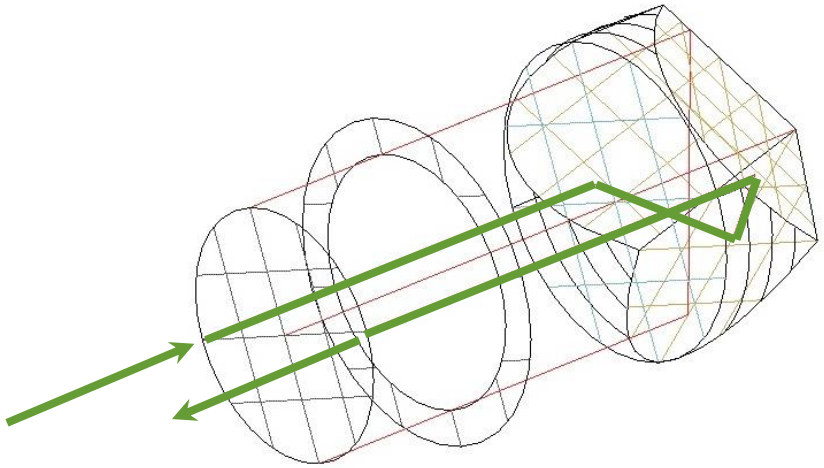


Applicazioni del Laser



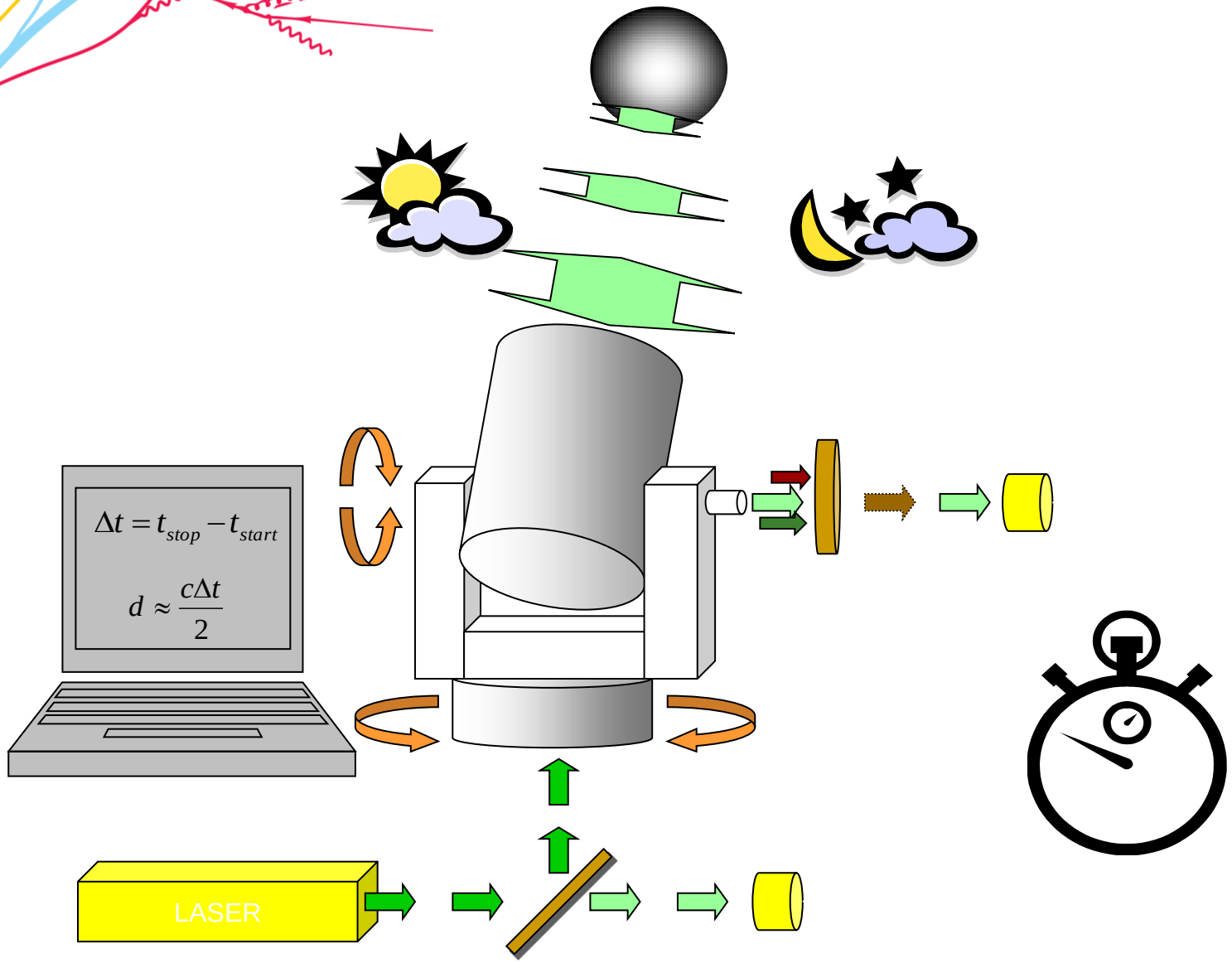
Laser beam reshaping the cornea during LASIK procedure

Retroriflettore laser

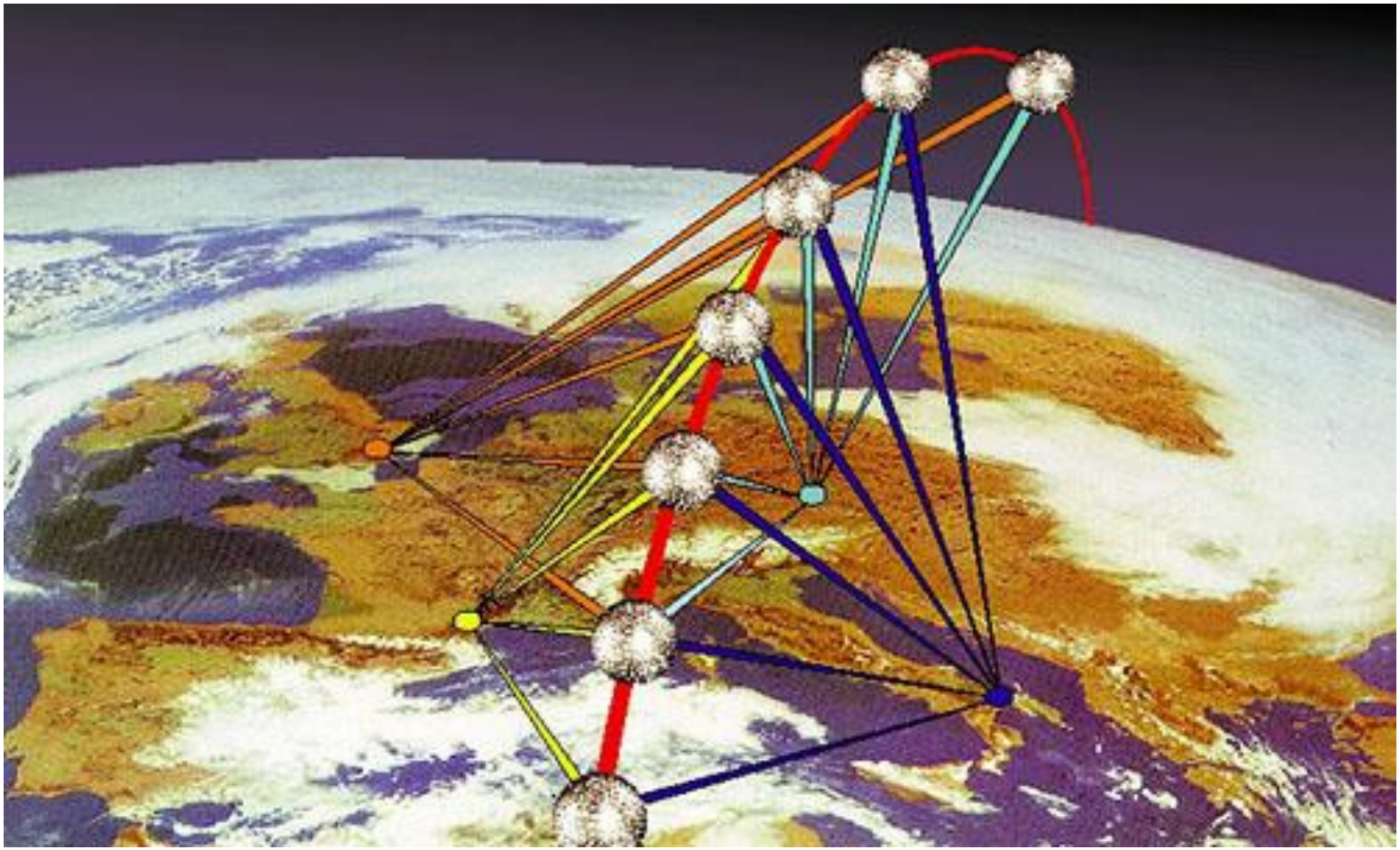


SCF_Lab

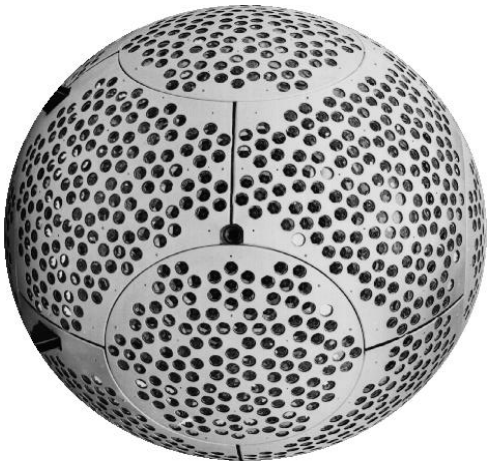
Laser ranging



Satellite laser ranging



Satelliti palla di cannone



Etalon-I & -II

LAGEOS-1

LAGEOS-2

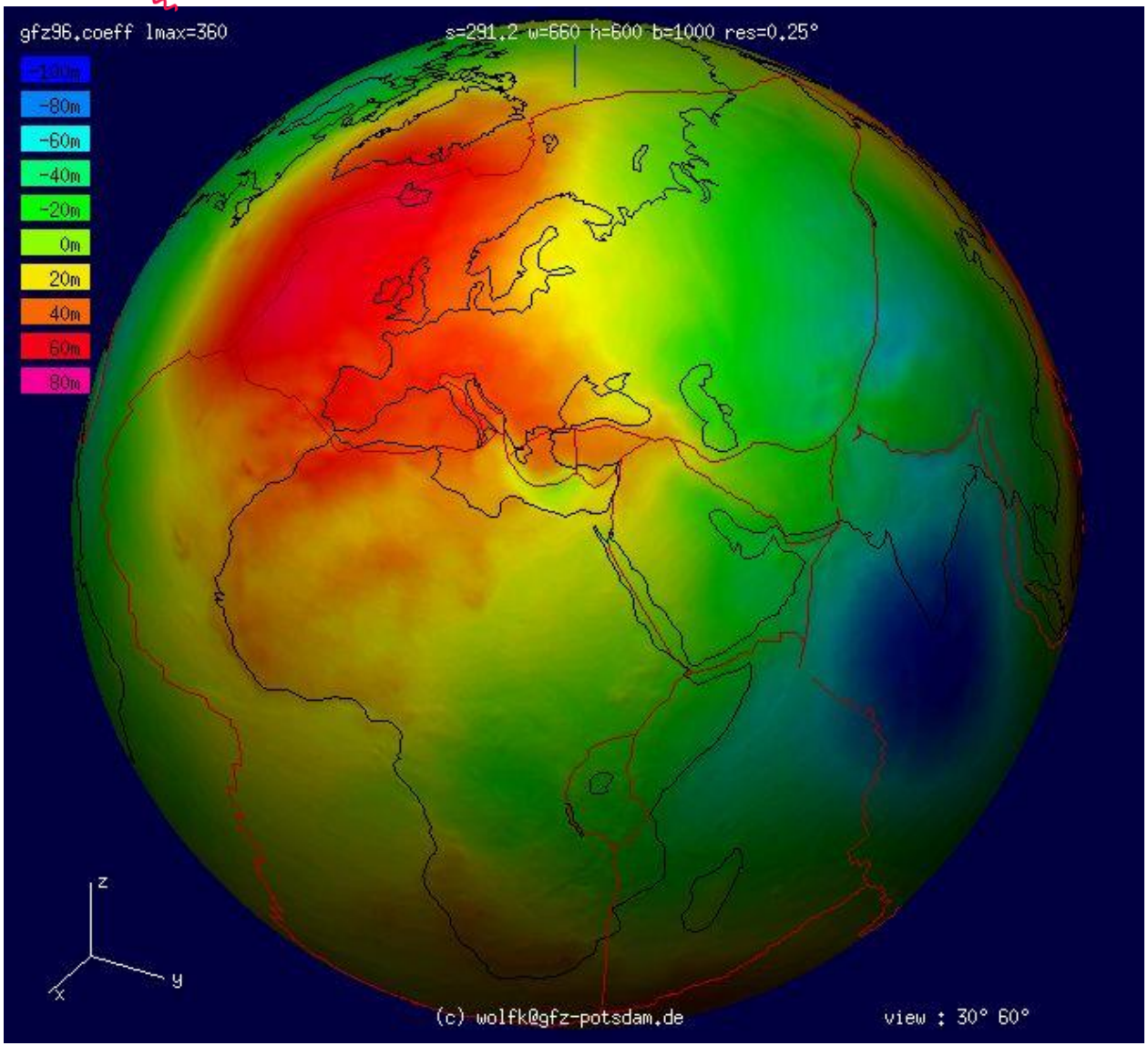
LARES

Starlette

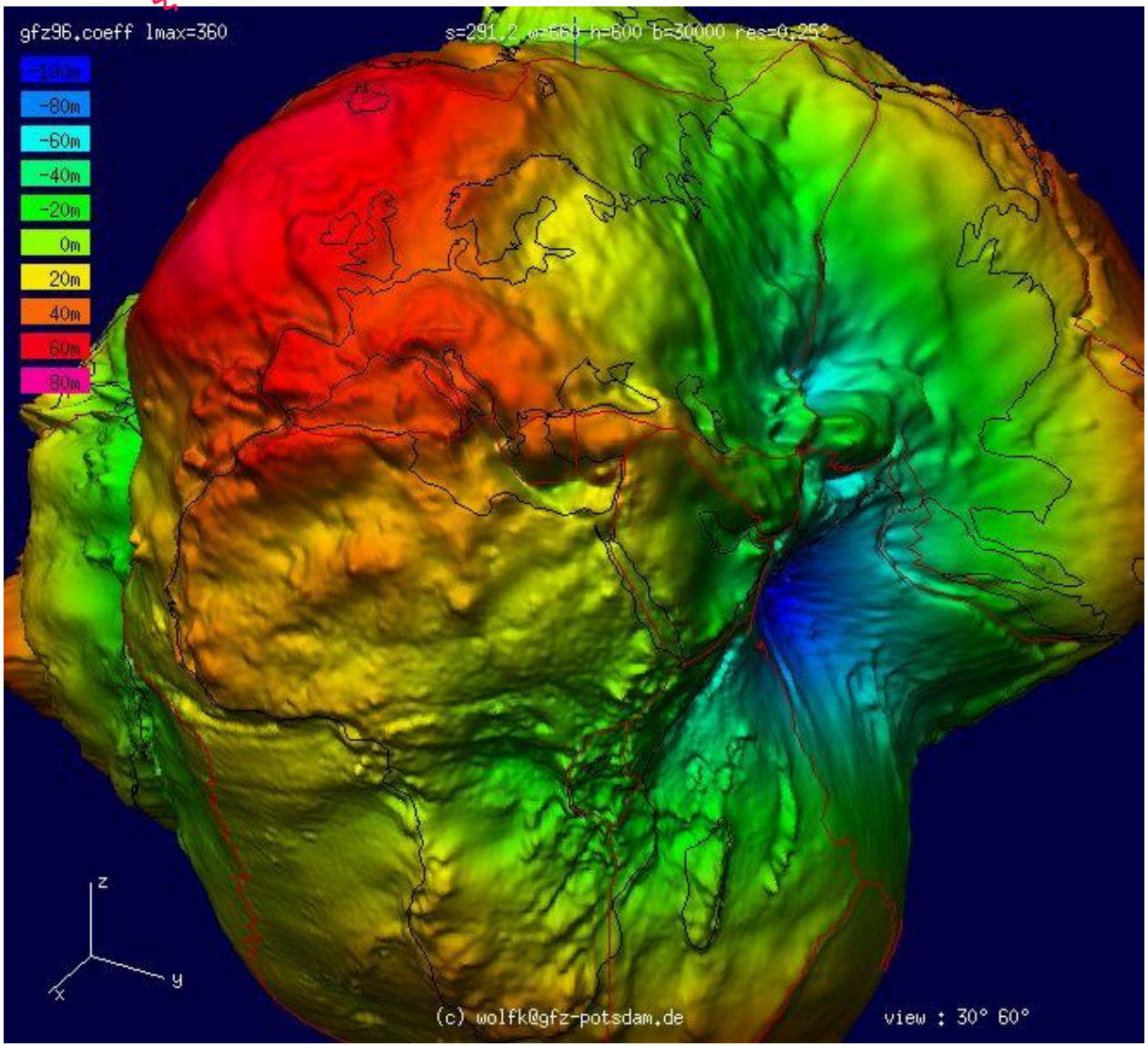
Stella

Larets

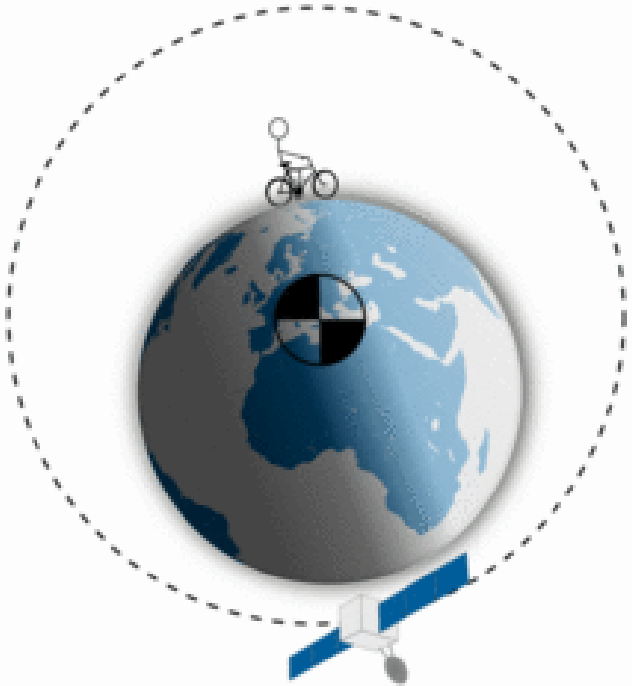
Densità di massa



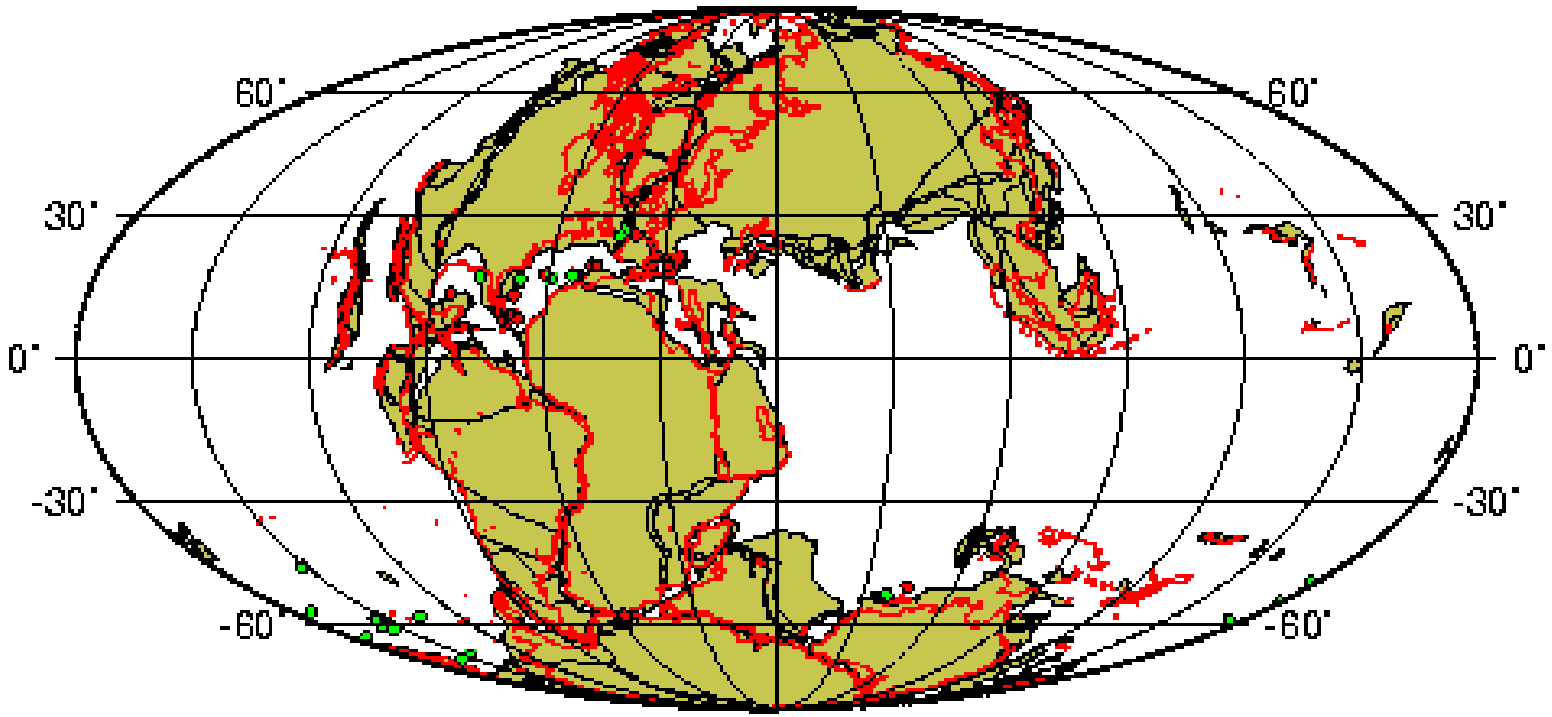
Campo gravitazionale



Movimento relativo placche terrestri

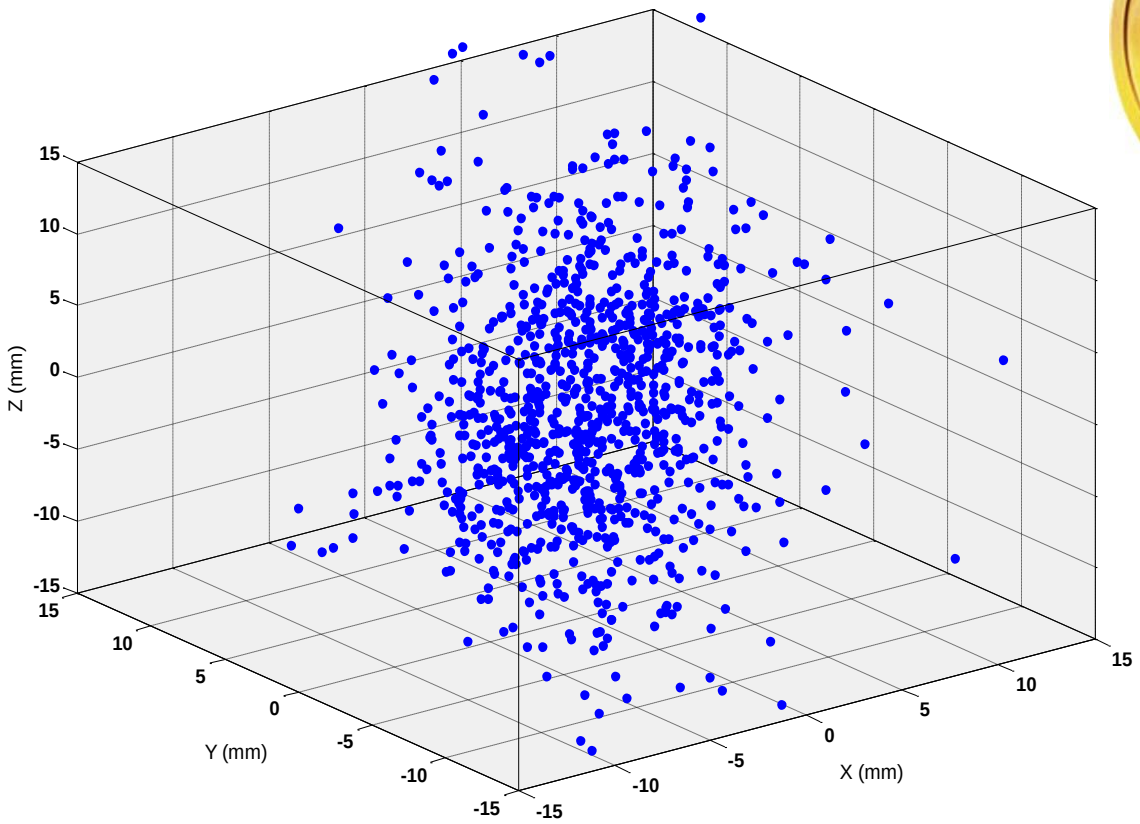


Movimento relativo placche terrestri

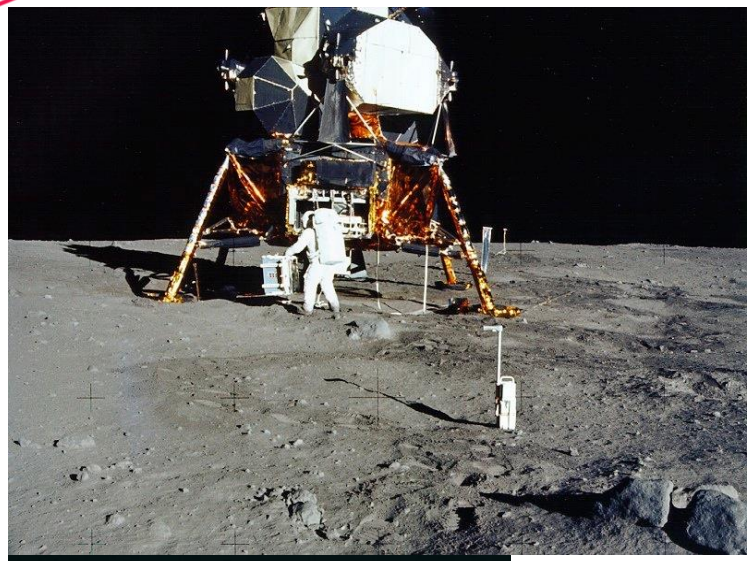


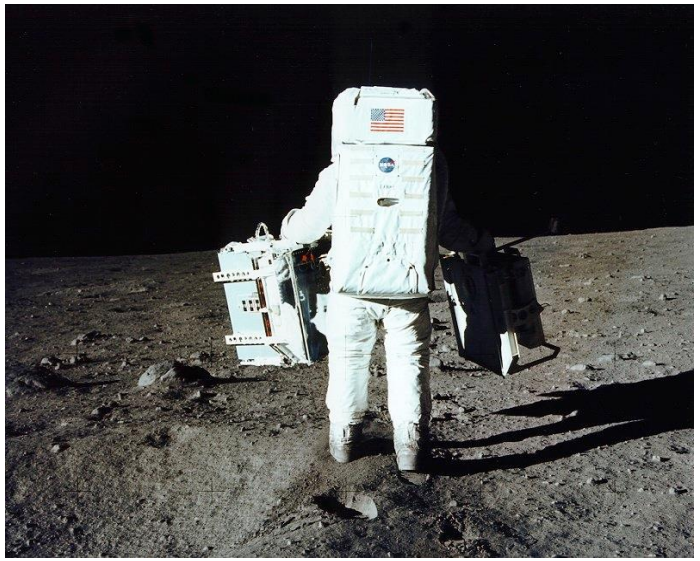
200 Ma

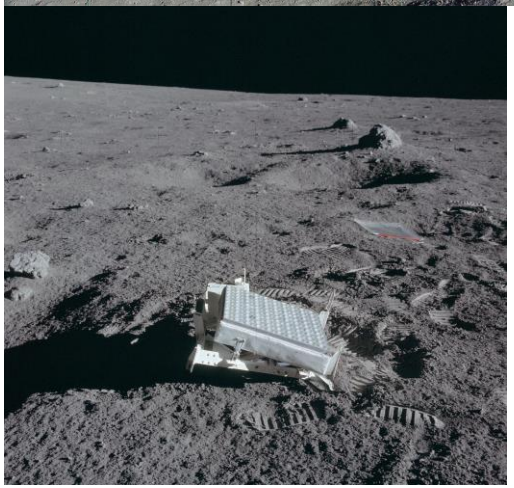
Centro di massa



Apollo 11

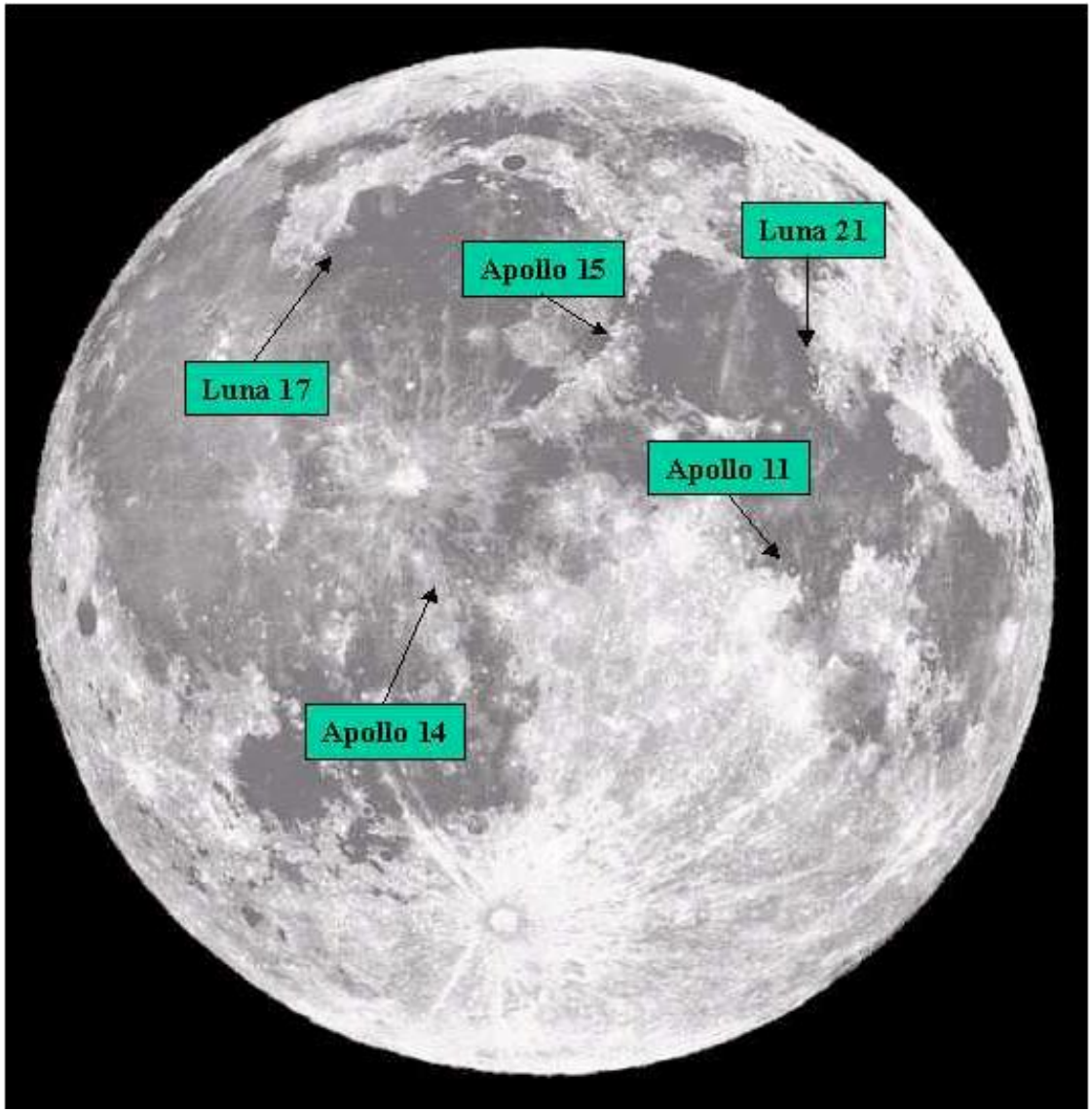






Il Lunar Laser Ranging fornisce dati di posizione della Luna sin dalla prima missione umana sulla Luna del Luglio del 1969

Lunar laser ranging



MoonLIGHT

Accordo Moon Express

Grazie per l'attenzione

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