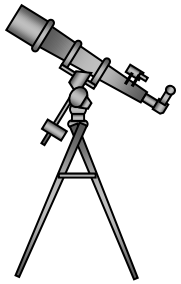
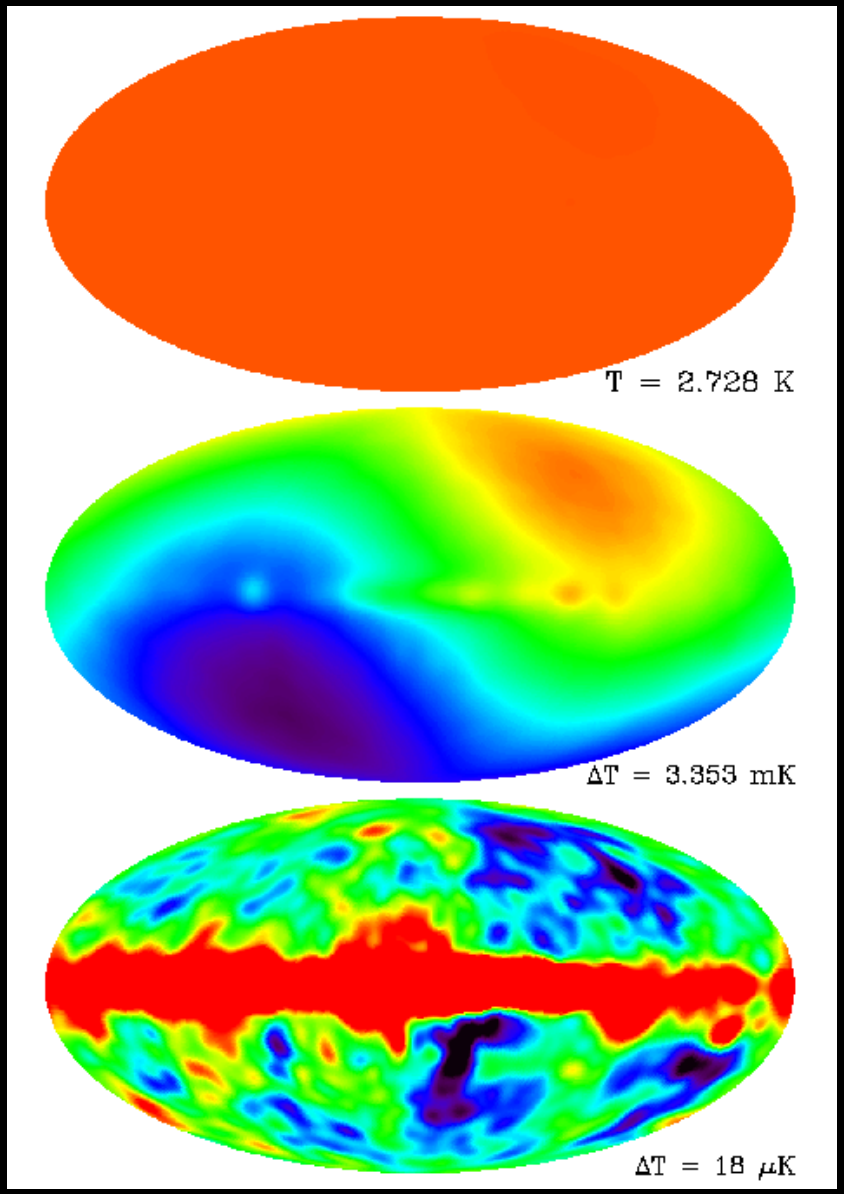
Astronomie

Wahlfach



Die Entstehung des Universums

E. Malz

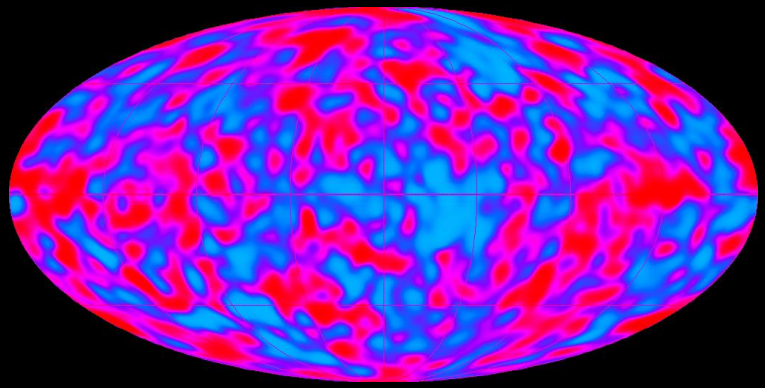


Kosmische Hintergrundstrahlung einschließlich der Temperatur in galaktischen Koordinaten (T=2,872K)

Scheinbare Temperaturschwankung aufgrund der Bewegung der Sonne um das Zentrum der Milchstraße

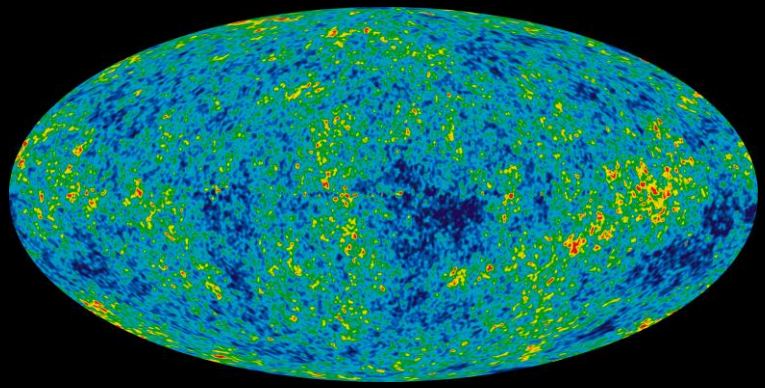
Dipol durch die Bewegung entfernt
Man sieht die Temperaturschwankung sowie die Milchstraße selbst

Bild: “Maps based on 53 GHz (5.7 mm wavelength) observations made with the DMR” von der NASA, COBE-Satellit via https://lambda.gsfc.nasa.gov/product/cobe/cobe_image_table.cfm [Public Domain (PD-USGov)]



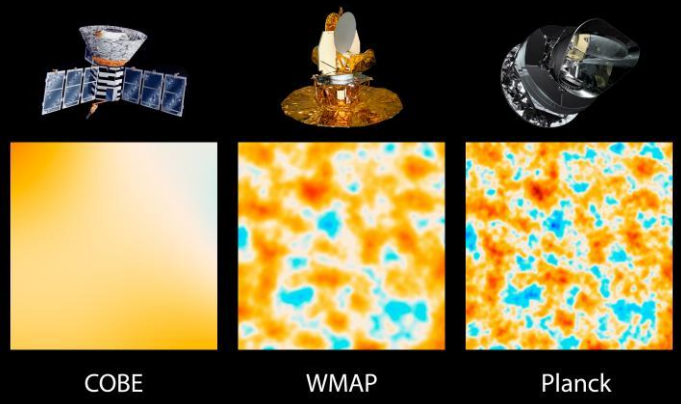
COBE-Satellit, 1989-1993

Bild (oben): “COBE cmb fluctuations” developed by the NASA Goddard Space Flight Center under the guidance of the COBE Science Working Group via https://commons.wikimedia.org/wiki/File:COBE_cmb_fluctuations.png [Public Domain (PD-USGov)]



WMAP, 2001-2010

Bild (Mitte): “Nine Year Microwave Sky” von NASA / WMAP Science Team via https://wmap.gsfc.nasa.gov/media/121238/index.html [Public Domain (PD-USGov)]



Planck-Satellit (2013)

Bild (unten): “PIA16874-CobeWmapPlanckComparison-20130321” von NASA/JPL-Caltech/ESA via https://en.wikipedia.org/wiki/File:PIA16874-CobeWmapPlanckComparison-20130321.jpg [Public Domain (PD-USGov)]

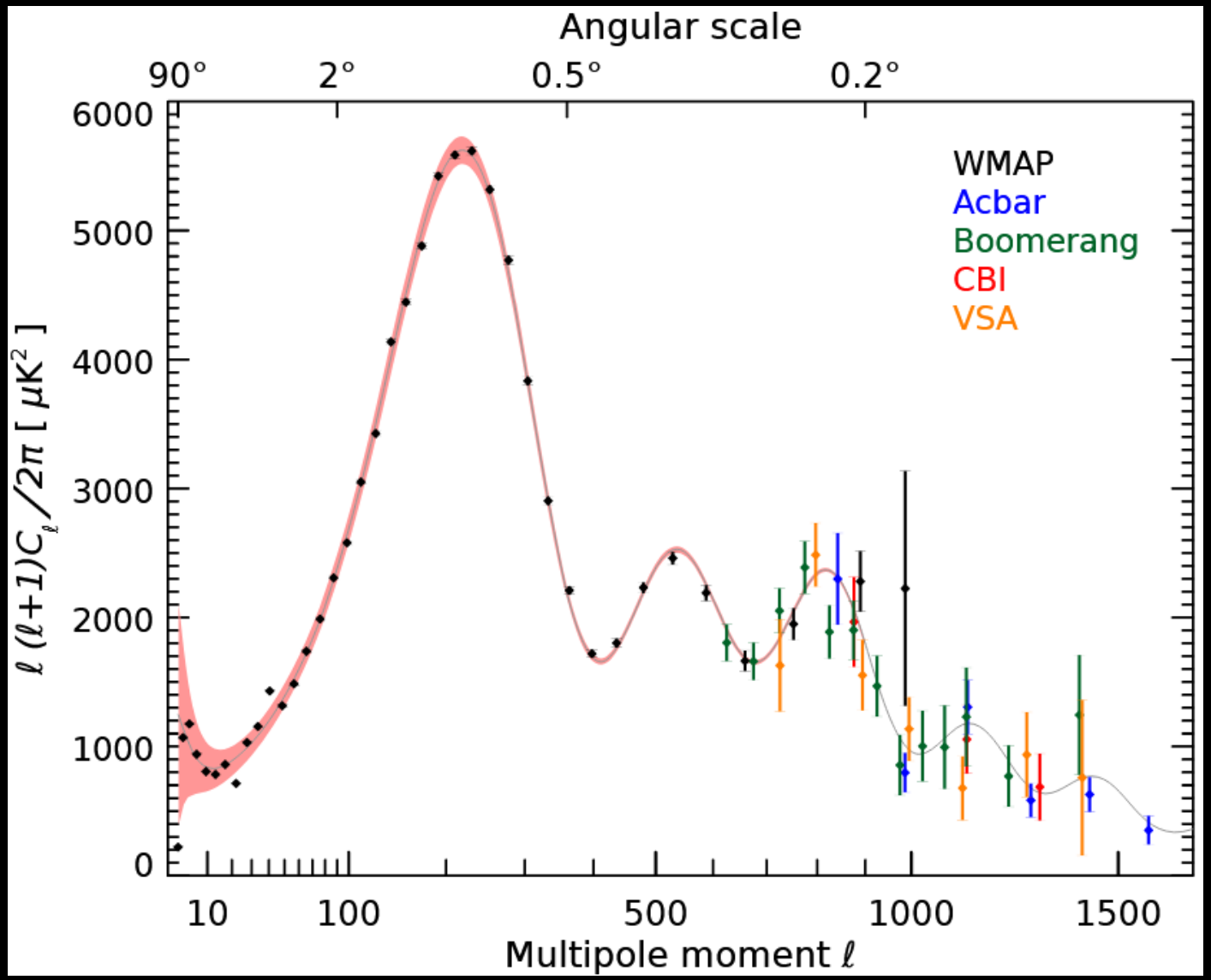


Bild: „WMAP TT power spectrum“ von NASA/WMAP Science Team via https://de.wikipedia.org/wiki/Datei:WMAP_TT_power_spectrum.png
[Public Domain (PD-USGov)]