



Coeval Observations of a Complete Sample of Blazars with Effelsberg, IRAM 30m, and Planck

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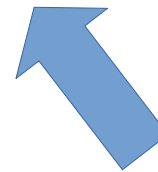
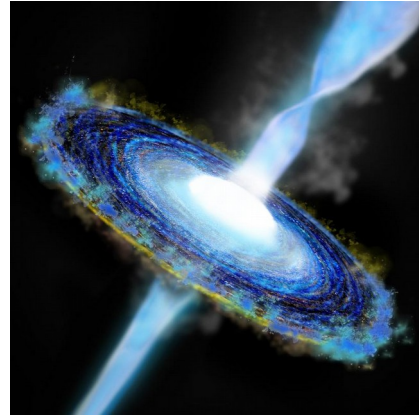


Planck (launch May 2009)

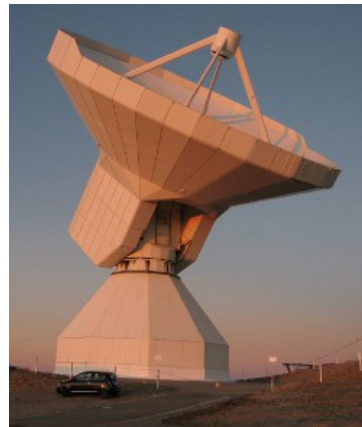
Planck LFI: 30, 44, 70 GHz
Planck HFI: 100 – 857 GHz



Fermi GST
(launch June 2008)

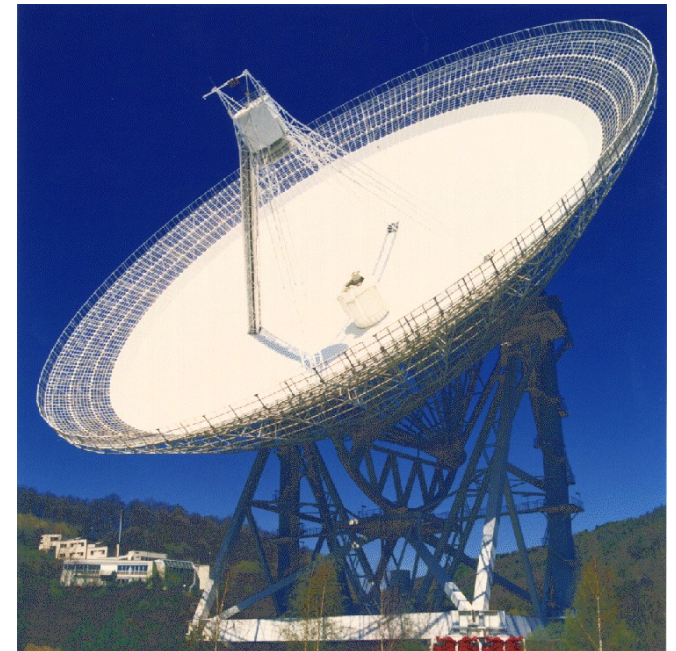


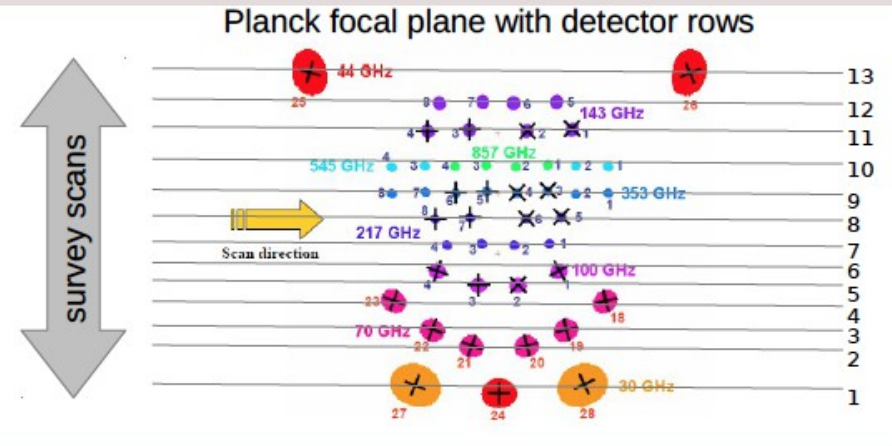
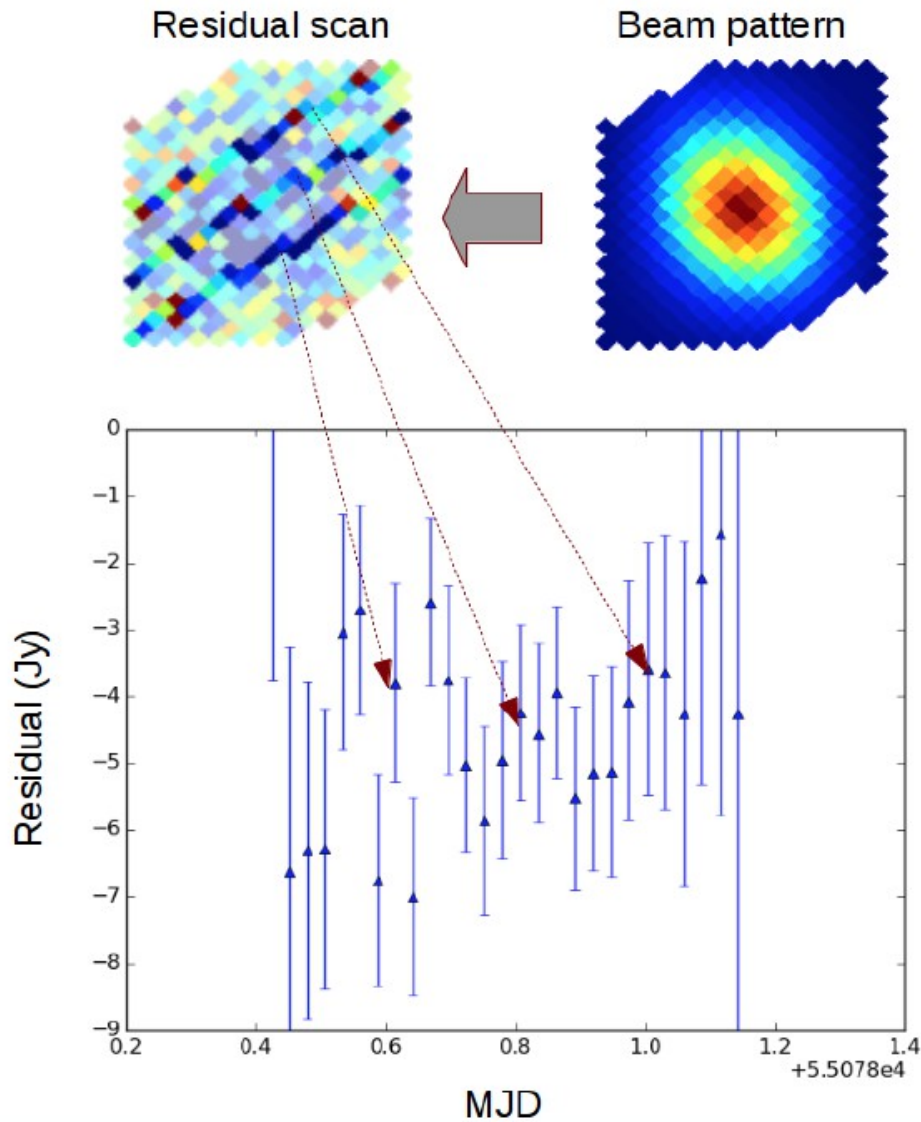
Effelsberg 100m: 2.7 - 42 GHz



IRAM 30m: 86, 142, 230 GHz

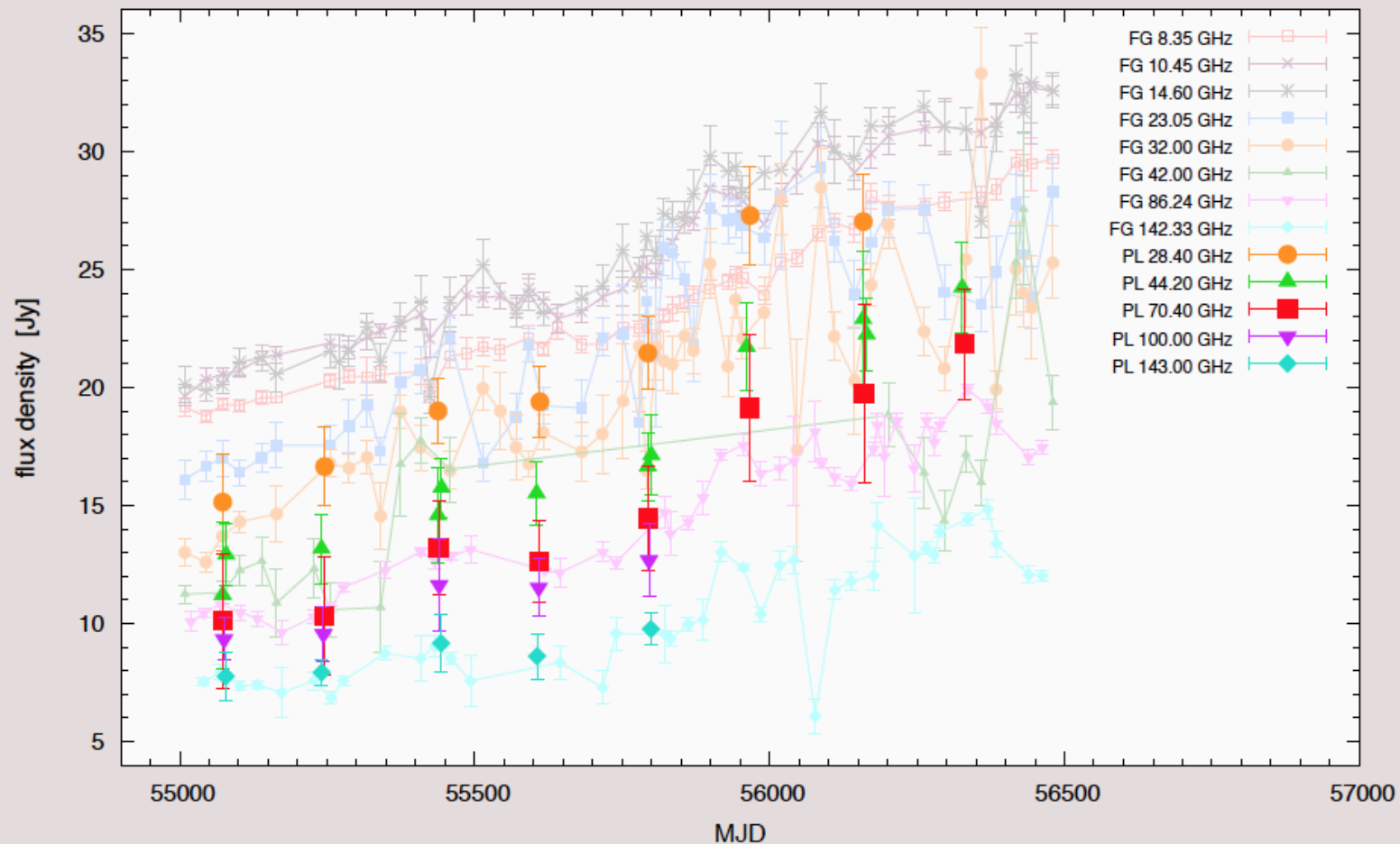
F-GAMMA
(since 2007)





Unlike other work where fluxes of point sources detected by cosmology probes are extracted from time-restricted all sky maps (e.g., Planck Collaboration XV 2011, Chen et al. 2013), Planck fluxes used here are produced by the Mapping Tool for Time Ordered Information (MATTI, see poster FM5p.32). MATTI, based on the beam-deconvolution code ArtDeco (Keihänen & Reinecke 2012), detects flux *variations* in a given sky position and associates it with bright, variable sources within the beam. For every pointing ID (PID) and each detector, a source flux is estimated by deconvolving with the detector beam. While sweeping over the source, Planck thus produces a *survey scan* profile with roughly one hour time resolution. Obviously, the method relies on our knowledge of the beam profile, and is prone to noise and systematic detector effects, apparent from the large variation of single PID fluxes in the survey scan.

Example: light curve of 3C84



F-GAMMA light curves from 8.35 to 142.3 GHz for the bright blazar 3C84 between Aug 2009 and Dec 2013, with MATTI derived fluxes of the Planck LFI 30, 44, and 70 GHz radiometers, HFI 100 GHz PSBs and HFI 143 GHz SWBs, noted at their central bandpass frequencies as listed in Planck Collaboration I (2013). The fluxes shown here are weighted averages over full scans and all detectors at one frequency combined. Their errors express the rms scattering of the single PID fluxes during each scans, thus consider both statistical and systematic deviations. Total fluxes are determined by adding the measured average deviation to the to the source flux listed in the Second Planck Catalogue of Compact Sources (Planck Collaboration XXVI 2015).