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Planck/LFI measures of Planets Spectral Energy Distribution

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Abstract Body: The spectral energy distribution at millimetric wavelengths of planets is an important benchmark to inter-calibrate different CMB experiments and a source of information on the atmospheric structure of planets. Planck/LFI observed Mars, Jupiter, Saturn, Uranus and Neptune from three to eight times during its mission. In particular, as a calibrator Jupiter allows accurate comparison due to its high S/N ratio. Since planets are moving objects, the measure must account for their proper motion as well as a number of second order effects. Here we present the results of accurate measurements of brightness temperature Tb of planets, and we compare them with WMAP.

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The importance of band pass and frequency dependent beam modelling in CMB experiment, lessons learned from Planck/LFI

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Abstract Body: The high level of accuracy required by recent CMB experiments can be obtained accounting for very tiny effects while calibrating them. Among those effect it must be considered the fact that the cosmological dipole, usually used as primary calibrator, must be convolved with the full-sky beam pattern of the instrument and averaged over its bandpass. This is in particular true for a multi horn instrument as Planck/LFI. In this communication we discuss this problem, common to all the CMB missions, in the light of the experience gained on the Planck/LFI instrument.