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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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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.

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