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Coeval observations of a complete sample of flat-spectrum blazars with Effelsberg, IRAM 30m, and Planck

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We present time-resolved broad-band spectra of a complete sample of blazars, selected by showing flat radio spectra up to 143 GHz, taken from observations with Planck, the Effelsberg 100m telescope, and the IRAM 30m telescope. Dedicated Effelsberg observations have been focused on times within two months around Planck single survey scans of each source, with a cadence of 2-4 weeks during the 4th and 5th Planck survey. The data are complemented with flux measurements from the F-GAMMA program (Fuhrmann et. al, 2007, AIPC 921, 249; Fuhrmann et al., 2014, MNRAS 441, 1899), and from other Effelsberg and IRAM monitoring programs, as far as available. Planck data are extracted employing methods used in the blind search for variable sky signals, which allow to estimate snap-shot source fluxes down to pointing period (i.e. hour scale) time resolution (Rachen et al., Proc IAU GA 2015). The program thus covers 15 frequencies between 2.4 to 857 GHz and is sensitive to variability time scales from hours over weeks up to one year, which is unprecedented in the history of blazar monitoring.

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