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Cosmology from low radio frequencies with LoTSS

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The LOFAR Two-metre Sky Survey (LoTSS) will be the worlds largest catalogue of radio sources at low radio frequencies for the next decades. It will also have photo-z information from the cross-matching with optical and infrared surveys for most radio sources. This allows us to address cosmological questions via a new frequency window to the Universe, among them the cosmic radio dipole and the measurement of angular correlation function for shells at different redshifts. Siewert et al. have demonstrated that already the products of the LoTSS-DR1 catalogue are consistent with the Planck 2018 results. I will discuss the observational and theoretical challenges for cosmological studies of the large scale structure at low radio frequencies and will show first results from the analysis of LoTSS-DR2.

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