

Contributed Talk

Splinter Non-Thermal

SEMI-SIMULTANEOUS DETECTIONS OF SINGLE PULSES IN THE RADIO  
REGIME WITH EFFELSBURG AND LOFAR

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The transient radio sky has revealed a host of astronomical phenomena, among the most recent discoveries are the Fast Radio Bursts (FRBs). These millisecond,  $\sim$ Jansky bright single pulses are seen with dispersion measures (DMs) several times larger than those caused by the electron density in our own Milky Way and therefore thought to be of extra-galactic origin. The non-repetitive behaviour of all but one FRB and the majority being single-dish detections make it hard to pinpoint their exact location on the sky and deduce which sources produce them.

In an effort to get a handle on the progenitor of the only repeating FRB to date: FRB 121102, simultaneous observations were performed using LOFAR and the Effelsberg Radio Telescope. The large difference in their operational central frequency allowed for the determination of the most constraining broadband spectral index limit for the source and led to the development of an observing system potentially capable of localising non-repeating FRBs up to an arcsecond resolution. Both the performed observations and the obtained spectral index limit will be presented here as well as a future outlook on when the developed system will be used to search archival data and detect FRBs in real-time.