

Proposal Abstract:

Fast Radio Bursts (FRBs) are a class of bright dispersed millisecond radio pulses at cosmological distances. There are two important underlying questions in the field: what generates such bright coherent radio emission and how can we utilise FRBs as cosmological probes. Observations of repeating FRBs provides the opportunity for detailed study of the pulse profile and polarization properties, such as extreme polarization angle swings. This will help us understand the physical environment of the progenitors and the emission process of FRBs. The dispersion, scattering and polarization caused by propagation through ionised medium provides rich information of the interstellar medium (ISM) and intergalactic medium (IGM). We propose to use FAST to search for repetition activity of FRB 210407, a distant bright fast radio burst detected and localised by the Australian SKA Pathfinder.