Contribution ID: **1097** Type: **Invited talk in the parallel session**

Fast radio bursts with the Australian SKA Pathfinder

Monday, 5 July 2021 16:50 (20 minutes)

Fast radio bursts (FRBs) are amongst the most energetic objects in our Universe, but despite a number of plausible models, their origin remains a mystery. Thanks to recent advances using the Australian Square Kilometre Array Pathfinder (ASKAP) radio telescope we can now routinely localise FRBs to the galaxies they originate form, and in some cases even pinpoint the burst to a region within the galaxy. Deep optical and radio follow-up observations enable us to study the type of galaxies and environments that FRBs live in, providing some of the strongest constraints on progenitor models. In addition, localising FRBs to their host galaxies also allows us to use them as probes to trace the ionised gas in galaxy haloes, large-scale structure and the inter-galactic medium. In this talk, I will discuss the latest results from ASKAP and the ongoing efforts to improve the FRB detection rates. I will also present the current status of the UTMOST-2D project for FRB localisation.

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Session Classification: What Can We Learn from a Growing Sample of Fast Radio Bursts?

Track Classification: Fast Transients: What can we learn from a growing sample of Fast Radio Bursts?