



Contribution ID: 220

Type: Oral Presentation

Searching for pulsars and FRBs in an extragalactic source with MeerKAT

Tuesday, 4 July 2023 10:20 (20 minutes)

Pulsars, the aftermath of core-collapse supernovae, rotate rapidly and have immense magnetic fields. These characteristics lead to broad-band radio emission. The radio pulses are believed to be emitted above the pulsar's magnetic polar caps. The MeerKAT radio telescope, which is situated in Carnarvon in the Northern Cape, South Africa, is ideally suited to discover new pulsars due to it being located in a radio-quiet area with minimal radio interference, and its excellent sensitivity. Our project is part of the Transient and Pulsars with MeerKAT (TRAPUM) survey project, which aims to discover new pulsars and transient events. We investigated seven potential extragalactic sources, focusing on their stellar population, star-formation rates, and masses. We then chose the most promising galaxy (NGC253) for observation by MeerKAT. An upper limit has been set on pulsar emission from this galaxy. We will discuss the selection criteria, search methods, upper limit, and future prospects in this presentation.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

MSc

Primary authors: Mr HURTER, Heinrich; VENTER, Christo (North-west University, Potchefstroom Campus); KUNDU, Anu (Centre for Space Research, North-West University); Prof. STAPPERS, Benjamin (The University of Manchester); Dr PRESTON, Lina Levin (The University of Manchester)

Presenter: Mr HURTER, Heinrich

Session Classification: Astrophysics & Space Science

Track Classification: Track D1 - Astrophysics