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Commensal searching for radio transients/variables in MHONGOOSE Large Survey Project (LSP).

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The MeerKAT radio telescope is the newly built South African precursor radio telescope array for the mid frequency component of the Square Kilometre Array (SKA1-Mid). Its excellent sensitivity and wide field of view, combined with commensal access to a large number of MeerKAT surveys, allows astronomers to gain new insights in time-domain radio astronomy, particularly in uncovering the population of faint radio transients and variables. In this study use the SARAO SDP (Science Data Processing) images of observations of the MHONGOOSE Large Survey Project (LSP) to search for new radio transients. MHONGOOSE is targeting 30 different galaxies (pointings) observed over 10 epochs per pointing. The aim of this project is to search a selection of MHONGOOSE fields for radio transients / variables over the 10 epochs per field. We used the Transient Pipeline (TraP) on the cloud compute infrastructure of the Inter-University Institute for Data Intensive Astronomy (IDIA) to characterise the light curves of point sources in the field using statistical variability parameters. Here we show the first results of our search for radio transients in the MHONGOOSE data set of NGC 1566.

Keywords: Transients; Variables; Radio Astronomy

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

Yes

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

MSc

Consent on use of personal information: Abstract Submission

Primary author: Ms TSHILENGO, Vhuthu (Univen)

Co-authors: Prof. WOUDT, Patrick (UCT); Dr MALUTA, Eric (Univen)

Presenter: Ms TSHILENGO, Vhuthu (Univen)

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