

# Using The Fermi Treasure Map To Find Pulsars With MeerKAT

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Spider pulsars refer to the general class of millisecond pulsar binaries comprising a low-mass companion in a tight-enough orbit for the latter to be strongly affected by the energetic pulsar wind. In the radio regime multiple spider systems present extended eclipses which has made them challenging to discover in typical radio surveys. Fermi LAT has considerably changed this picture as gamma-ray point sources with no identified counterpart often prove to be associated with energetic pulsars, many of which are spider binaries. This treasure map provides a reliable way of performing targeted radio survey for pulsars. In fact, they have been so successful that the number of confirmed/solid candidate spiders is now on par with the number of known pulsars in globular clusters with similar spin periods. They also make up around half of the fastest pulsars in the galactic field (i.e.  $P_s < 5$  ms), which is a stark contrast to the handful known in the pre-Fermi era. With the MeerKAT radio telescope in its early days of operation, the TRAPUM consortium is conducting an extensive survey of the remaining ~1000 unidentified Fermi-LAT sources. We aim to perform the most uniform and complete survey so far in terms of addressing biases related to observing frequency, sky area coverage, instantaneous sensitivity and binary selection effects, possibly targeting up to a third of the remaining sources. In this talk, we present the early results from this survey and prospects it will offer to understand the underlying population of spider binaries.

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