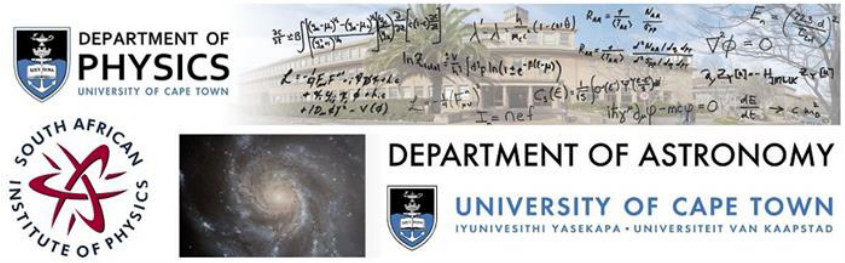


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# Calibration of a statistical method used to constrain pulsar geometries via light curve modelling

*Wednesday, 6 July 2016 16:10 (1h 50m)*

## Abstract content <br>   (Max 300 words)<br><a href="http://events.saip.org.za/getFile.py/a target="_blank">Formatting &<br>Special chars</a>

Since its launch in 2008, the Fermi Large Area Telescope (LAT) has detected over 200 gamma-ray pulsars above 100 MeV. This population of pulsars is characterised by a rich diversity of light curve morphologies. Researchers have been using both the radio and gamma-ray light curves to constrain the inclination and observer angles of each of these pulsars. At first, this was done using an "eyeball" technique and later on via statistical approaches. We have also been developing a novel statistical approach that places the radio and gamma-ray data on equal footing despite their disparate flux errors. We chose a dozen pulsars from the Second Fermi Pulsar Catalog, both old and young, and applied this new technique as well as the "eyeball" technique to constrain their geometric parameters. We will present first results on our comparison of the best-fit parameters yielded by each of the aforementioned techniques. This will assist us in determining the utility of our new statistical approach, and gauge the overlap of the best-fit parameters (plus errors) from each of the different methods. This technique will provide the means for further pulsar magnetospheric model development using light curve data.

## Apply to be<br> considered for a student <br>   award (Yes / No)?

Yes

## Level for award<br> (Hons, MSc, <br>   PhD, N/A)?

Hons

## Main supervisor (name and email)<br>and his / her institution

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## Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?

Yes

## Please indicate whether<br>this abstract may be<br>published online<br>(Yes / No)

Yes

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