

Phase-resolved spectroscopy of millisecond pulsars in the Third Fermi-LAT pulsar catalogue

Friday 17 September 2021 15:00 (15 minutes)

The number of detected gamma-ray millisecond pulsars (MSPs) has been increasing rapidly since the launch of the Fermi Large Area Telescope (LAT) in 2008. The Third Fermi LAT Pulsar Catalogue (3PC) will present high-quality data for about 250 gamma-ray pulsars based on 11 years of observation. Out of that number, more than 100 are MSPs. The stability of MSPs light curves makes them interesting targets to study. Phase-resolved spectroscopy was performed for only 25 MSPs by Renault-Tinacci et al. (2015). This talk will be an overview of PhD work that will extend the research done by Renault-Tinacci et al. We will perform phase-resolved spectroscopy of about 50 bright MSPs using the latest Fermi LAT data (3PC). Working on a larger sample will increase the chance of finding new trends across the pulsar population. Our work will enable us to study the characteristics of the gamma-ray spectra and model the MSPs emission mechanisms and sites in much more detail than was possible before.

Abstract field

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Session Classification: Pulsars II & Other HE Sources & Outreach

Track Classification: Pulsars, Other High-Energy Sources and Outreach