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Connection Between Pulsar GeV Emission and Pulsar Wind Nebula TeV Emission.

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The pulsed GeV gamma-ray emissions from pulsars appear to come from the outer-gap and polar-cap emissions, which are powered by the out flowing electron-positron wind. This electron-positron wind is also the energy source of the un-pulsed TeV emission in the pulsar wind nebulae (PWN). Therefore, a tight correlation between the pulsed GeV emission and un-pulsed TeV emission might be expected. The work we will present in this talk shows that there is no obvious correlation between TeV flux of un-pulsed emission and GeV flux of pulsed emission. Instead, a tight correlation was identified when the GeV flux and TeV flux were normalized by suitable functions of pulse period and spin-down luminosity. Interpretation of this normalization is still an open question. In this talk we will present the possible interpretations.

Primary author: Mr ABEYSEKARA, Anushka U (Michigan State University)

Co-author: Dr LINNEMANN, James (Michigan State University)

Presenter: Mr ABEYSEKARA, Anushka U (Michigan State University)

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