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**Gamma-Ray Light Curves from Pulsar Magnetospheres with Finite Conductivity**

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The Fermi Large Area Telescope has provided an unprecedented database for pulsar emission studies that includes gamma-ray light curves for over 100 pulsars. Modeling these light curves can reveal and constrain the geometry of the particle accelerator, as well as the pulsar magnetic field structure. We have constructed 3D magnetosphere models with finite conductivity, that bridge the extreme vacuum and force-free solutions used in previous light curves modeling. We are investigating the shapes of pulsar gamma-ray light curves using these dissipative solutions with two different approaches: (1) assuming geometric emission patterns of the slot gap and outer gap, and (2) using the parallel electric field provided by the resistive models to compute the trajectories and emission of the radiating particles. The light curves using geometric emission patterns show a systematic increase in gamma-ray peak phase with increasing conductivity, introducing a new diagnostic of these solutions. The light curves using the model electric fields are very sensitive to the conductivity but do not resemble the observed Fermi light curves, suggesting that some screening of the parallel electric field, by pair cascades not included in the models, is necessary.