

# Constraints on emission regions of gamma-ray pulsars

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A geometric method is developed to constrain the 3-D structure of emission regions of pulsars. In terms of retarded magnetic dipolar field and with inclusion of aberration and retardation effects, the method is endeavored to constrain the geometrical parameters of emission regions via reproducing some multi-wavelength features, e.g. pulse widths, phase offsets between different pulses and polarization properties. It is applied to six known gamma-ray pulsars with radio profiles and gamma-ray light curves. The constrained results of radio and gamma-ray emission regions of these pulsars are reported.