

# A model for unusual pulsed X-ray emission from PSR J1119 - 6127

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**ABSTRACT:** The suggested model is based on the assumption that the pulsar magnetic field at the stellar surface essentially differs from the pure dipole field. It is assumed that the partially screened vacuum gap is the source of the pulsar activity. The curvature and structure of the surface field lines are of the kind that a significant amount of high energy photons (radiated either by curvature radiation or the inverse Compton scattering process) are absorbed in the region of the closed field lines. The created pairs propagate along the closed field lines and heat the stellar surface near the local poles. It is demonstrated that such a configuration can be naturally realized if a strong non-dipolar magnetic field exists near the pulsar polar cap.