

ASTROPHYSICS SEMINAR

Tuesday, 10 February 2009 at 14:00

Pulsar Wind Nebulae and Polarized Gamma-Ray Emission from the Crab

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Abstract. Pulsar Wind Nebulae (PWN) are powerful soft gamma-ray sources that emit typically 1% of the pulsar's spin down energy in the 20 to 100 keV domain. During the course of the Galactic plane survey the INTEGRAL mission has detected about 10 PWN, all of which are associated with energetic young pulsars. A brief review of gamma-ray emitting pulsar/PWN systems in the context of the physical attributes of the parent pulsars will be followed by a more detailed discussion of the recent INTEGRAL detection of a highly polarized gamma-ray flux from the Crab nebula. Within an interpretation of this result two main themes will emerge during the talk: an attempt to locate the position of origin of the gamma-rays in the context of the complex morphological structures (jets, torus, etc.) inherent to the PWN systems; and the likely physical processes involved.

Additional Information

The seminars are given in the ISDC "Pavillon" building
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