物理学第二教室　談話会

The Extreme Physics of Pulsar Wind Nebulae

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(Room 511, Building 5)

Abstract:
The universe excels at creating objects whose properties are beyond anything achievable on Earth.　A prime example of this are pulsar wind nebulae (PWNe) – which are powered by the rotational energy of a strongly magnetized (>10^{12} Gauss), rapidly rotating (rotation period P ～10 ms – 1s), neutron star (～1.5x the mass of the Sun and the diameter of Kyoto–Otsu), and contain particles ～100x more energetic than currently produced at the CERN LHC.　In this talk I will describe what we have learned about the formation of neutron stars and the production of such high–energy particles by fitting the observed properties of a PWN with a simple model for its dynamical and radiative evolution.