

Zmiana prelegenta

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Atmospheres and spectra of hot neutron stars

There are several methods of mass and radius determination of neutron stars. Knowledge of these parameters is needed to constrain the equation of state of super dense matter. Our method is based on the fitting of the observed spectra by theoretical X-ray spectra. Our theoretical spectra were calculated by sophisticated ATM 24 code. We tested our method using real X-ray observations as well as fake spectra. The latter spectra were created for WFI/ATHENA instrument. We show that in the latter case we could achieve accuracy of mass and radius determination such good as several percent for sources with flux of the order of few hundredths of Crab. This method is now enhanced by including gravitational darkening effect which affect significantly emergent spectrum of rotating and distorted neutron star. I will present preliminary estimates how this effect influence on temperature and gravity distribution over the surface of the neutron star.

Serdecznie zapraszam,
Agnieszka Majczyna