Hydrogen Atmosphere X-ray Spectra of Transient Neutron Stars in Quiescence: Prospects for Measuring Neutron Star Radii

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Abstract

Neutron stars have at last entered the age of atmospheres – when physical understanding of the neutron stars is derived from more detailed stellar spectrscopy than the simple black-body assumption. X-ray spectroscopy of transiently accreting neutron stars in quiescence promises precision measurements of radii of neutron stars. We describe the spectral observations of this class of sources, which has made great improvements with Chandra. In addition, we describe strong variability observed from one of the best known of this class (Aql X-1), which has implications for our interpretation of the source of luminosity.

CATEGORY: BLACK HOLE AND NEUTRON STAR BINARIES