

Monday, February 13, 2017

4:10 – 5:00 PM

Barnard/EPS 103

**From the core to the crust — probing the interior of neutron stars
with observations**

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Abstract:

Neutron stars are fantastic cosmic laboratories to study the most extreme physics. Their intense gravitational fields can provide tests of general relativity and other theories of gravitation. Their unmatched magnetic fields permit studies of the interactions between matter and these fields. And their extreme interior densities allow us to probe matter in regimes not accessible to Earth laboratories.

Observationally, the thermal emission from the surface of neutron stars provides a probe for the physics in their interior. In this talk, I will present my work on different classes of neutron stars and how their surface emission is interpreted to study various aspects of extreme physics. In particular, I will discuss 1) neutron star radius measurements which inform on the equation of state of dense matter, and 2) observational constraints on the thermal evolution of young and old neutron stars as a probe for crustal physics.

Host: Neil Cornish

**** Refreshments served in the Barnard Hall second floor atrium at 3:45 ****

Dr. Guillot is a candidate for Physics Faculty Position