

## The Structure and Signals of Neutron Stars, from Birth to Death



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# Superfluid and superconducting magnetars and QPO spectrum

*Wednesday, 26 March 2014 18:00 (20 minutes)*

The analysis of Quasi Periodic Oscillations (QPOs) in Magnetars provided the first application of Asteroseismology in neutron stars. These oscillations are likely identified with magneto-elastic waves which originate in the giant flares. Cooling calculations show that magnetars become superfluid/superconducting systems in few hundred years from their birth. In this talk I will present the first dynamical study of superfluid magnetar models which incorporate the physics of superconducting protons and show its implications for the QPO Asteroseismology.

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