

NewCompStar School 2016 - “Neutron stars: gravitational physics theory and observations”



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Bulk & Shear Viscosities in Nuclear Matter

Thursday, September 8, 2016 4:30 PM (1h 30m)

In this lecture I will review the main features of bulk and shear viscosities in application to neutron stars. Starting with the discussion of the main processes contributing to both viscosities in superdense matter I will proceed to the effects of superfluidity. I will show how the baryon superfluidity affects the functional dependences and values of the coefficients and, moreover, how it increases the number of bulk viscosity coefficients in hydrodynamic equations. The role of the viscosity in neutron star evolution will also be discussed.

Summary

Presenter: Dr KANTOR, E. (Ioffe Physical-Technical Institute of the Russian Academy of Sciences, St.-Petersburg)