

Bulk viscosity and r -modes of neutron stars

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We discuss the effects of exotic matter such as, hyperon and K^- condensed matter on bulk viscosity in neutron stars. The bulk viscosity coefficient due to non-leptonic processes involving hyperons and K^- mesons are investigated here. Further, we show how the bulk viscosity coefficient is modified by superfluidity. Finally, we demonstrate how the exotic bulk viscosity coefficients influence r -modes of neutron stars which might be sources of detectable gravitational waves.