

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



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Electromagnetic signals from bare strange stars

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Strange stars with a crystalline color superconducting crust can sustain large shear stresses, supporting torsional oscillations of large amplitude. Moreover if a bare quark matter surface is present electrons spill in the star exterior forming an electromagnetically bounded atmosphere hundreds of Fermi thick. We investigate the electromagnetic signature connected with a torsional oscillation of the crust. The emitted power could be of the order of 10^{51} erg/s. The emission is in the radio frequency band with estimated relaxation times ranging between milliseconds, for a 1 km thick crust, to minutes, for a 9 km crust.

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