

Equation of State of Magnetar Crusts

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The equilibrium structure of the outer crust of cold non-accreting neutron stars endowed with superstrong magnetic fields has been determined in the framework of the magnetic BPS model. We have made use of the most recent experimental atomic mass data complemented with a microscopic atomic mass model based on the Hartree-Fock-Bogoliubov method. The crust composition and the equation of state are found to be markedly affected by the Landau quantization of electron motion.