High Energy Physics - Phenomenology

Magnetic field and quark matter in the core

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Magnetic properties of quark matter are discussed in the light of the observation of pulsars. Our works about spontaneous spin polarization and spin density wave are reviewed and their implications on compact-star phenomena are discussed. In particular, the former subject may be directly related to the origin of strong magnetic fields. An inhomogeneous state emerges following the chiral transition, where a kind of spin density wave develops.

Comments:	25pages,12figures, to appear in the book,"Neutron Stars: the aspects of high density matter, equations of state and related observables" by NOVA scientific Pub
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