東京大学大学院理学系研究科・理学部

物理学教室　談話会

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“Phases of Strongly Interacting Matter”

- from Quarks and Gluons to Nuclei and Neutron Stars -

2018年1月18日(木)　午後5時～午後6時30分

東京大学本郷キャンパス理学部4号館3階　1320号室

The strong interaction of quarks and gluons is at the origin of almost all of the mass of the visible universe. The emergence of multifaceted phases and structures in QCD, from quarks to hadrons, atomic nuclei and neutron stars, is one of the persistently challenging issues of modern science.

This colloquium reviews explorations and our current understanding of the phases of QCD. Empirical information from nuclear collisions at the highest available energies will be surveyed together with results from Lattice QCD thermodynamics. Important constraints on the phase diagram arise from nuclear physics and the treatment of the nuclear many-body problem using effective field theory approaches based on the symmetry breaking pattern of low-energy QCD. The presentation concludes with a discussion of stringent constraints on the equation-of-state of dense baryonic matter implied by the existence of massive (two-solar-mass) neutron stars. This topic is now in a special focus through the recent observation of gravitational waves from merging neutron stars.

※　午後 4 時半過ぎから 1320 号室の室内にお茶とお菓子を用意しています。
どうぞご利用下さい。