東北大学　宇宙創成物理学国際共同大学院プログラム

GP-PU (Graduate Program on Physics for the Universe）Seminar

“The QMC Model from Nuclei to Neutron Stars”

by Anthony W. Thomas, (CSSM, The University of Adelaide)

Time and Date: 10:00-12:00, Mar 13th, 2023

Place: Room 745, Science Complex B H03 (hybrid)

Registration:"https://us02web.zoom.us/meeting/register/tZwpc-ihrTIvHtdyhfBE1k8HVdhA5LjAcNuR”

Abstract:　Contrary to the traditional approach to nuclear structure, the quark-meson coupling (QMC) model takes into account the effect of strong relativistic mean-fields on the quark structure of the bound baryons. This immediately leads to a natural saturation mechanism for nuclear matter. We shall review the development of this approach into a modern energy density functional that has proven remarkably successful across the periodic table. This approach also provides a generalisation to hypernuclei without additional parameters. Finally, we discuss the application of the model to the equation of state of the very dense nuclear matter at the core of neutron stars and test this against the latest data on neutron star properties.

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