



ΑΡΙΣΤΟΤΕΛΕΙΟ
ΠΑΝΕΠΙΣΤΗΜΙΟ
ΘΕΣΣΑΛΟΝΙΚΗΣ

ΣΕΜΙΝΑΡΙΟ ΕΡΓΑΣΤΗΡΙΟ ΘΕΩΡΗΤΙΚΗΣ ΦΥΣΙΚΗΣ ΤΜΗΜΑ ΦΥΣΙΚΗΣ

Δευτέρα 16 Φεβρουαρίου 2026

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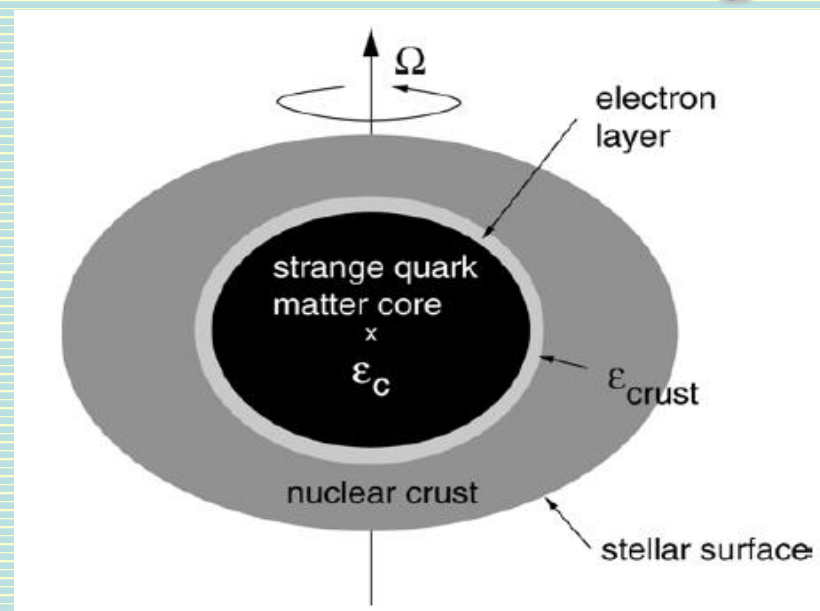
Αίθουσα Συνεδριάσεων του Τμήματος (4ος όροφος, αίθουσα 26)

Nuclear Theory Group

Department of Physics, Aristotle University of Thessaloniki



Schwinger process on the surface of hot strange star



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Supercritical electric fields, in which the Schwinger effect is possible, can exist in a thin surface layer of compact astrophysical objects, such as hypothetical quark stars and neutron stars. For completely degenerate stellar configurations, the Pauli exclusion principle does not allow the Schwinger effect to be realized, but for hot stars the situation is different. The report will show that a hot quark star is a source of electron-positron pairs. The energy release in pairs can be comparable to the energy release in neutrino channel.



Το προφίλ του ομιλητή

Mikalai Prakapenia, PhD, is an Associate Professor and Senior Researcher at the B.I. Stepanov Institute of Physics, National Academy of Sciences of Belarus, and an Adjunct Professor at ICRANet (Pescara, Italy). His research focuses primarily on the kinetics of relativistic plasmas in the presence of strong electromagnetic fields.