

Plasma-Induced Modification of Nuclear β -Decays and Application to Nucleosynthesis

Thursday, July 4, 2024 3:20 PM (30 minutes)

The talk will be focused on the theory behind the interaction of a plasma with a nucleus, and the consequent modification of decay rates through leptonic and hadronic channels. The former will involve a description of the electron contribution to the decay rate, while the latter will focus on nuclear excited and isomeric states. The talk will include some slides on experimental measurement of the process in stable magnetoplasma, and as promised, the last slides will be left open to discuss possible extension of these studies to laser generated plasmas. These studies will improve current models used for r- and s-process nucleosynthesis.

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