



ID de Contribution: 119

Type: Talk

The Sommerfeld Enhancement for Inelastic Dark Matter

jeudi 29 juillet 2010 14:00 (20 minutes)

Recently measured excesses in electron and positron cosmic rays have motivated models of dark matter with a velocity-dependent Sommerfeld enhancement to the annihilation rate. These models frequently feature nearly-degenerate excited states for the dark matter; such excited states may also furnish explanations for the DAMA/LIBRA annual modulation and INTEGRAL 511 keV line. I will present an accurate semi-analytic approximation for the Sommerfeld enhancement in models with a single excited state, and discuss novel features of the enhancement relative to the case with no excited states. I will also show the range of annihilation cross sections that can be achieved in the local dark matter halo, for models of this type, where the dark matter is a thermal relic with the correct relic abundance and constraints from the cosmic microwave background are respected.

Auteur principal: Dr SLATYER, Tracy (Harvard University)

Orateur: Dr SLATYER, Tracy (Harvard University)

Classification de Session: Parallel session : Dark Matter Candidates 2