Contribution ID: **8**   Type: **Poster Contributions**

Dark matter decays from non-minimal coupling to gravity

Wednesday 14 September 2016 17:45 (15 minutes)

In the framework of the Standard Model extended with a dark matter particle in curved spacetime, we investigate the impact of terms in the Lagrangian linear in the dark matter field and proportional to the Ricci scalar on the dark matter stability. We show that this non-minimal coupling induces decay even if the dark matter particle only has gravitational interactions, and that the decay branching ratios into Standard Model particles only depend on the dark matter mass. We compute the dark matter decay widths in some simple scenarios and we set conservative limits on the non-minimal coupling parameter from experiments.

Summary

Author: CATA, Oscar

Presenter: CATA, Oscar

Session Classification: Poster Session (coffee at 15:00) & CERN Visit

Track Classification: Dark matter (indirect detection)