

The nature of dark matter: observations and experiments

Friday, September 16, 2016 2:00 PM (20 minutes)

The nature of dark matter is perhaps the most intriguing and open issue in Physics, whose resolution is likely to bring us beyond the Standard Model. The experimental energy scale of TeV is most pivotal for the recent advances in the booming field of astroparticle. On the other side, recent astrophysical observations have revealed, in the distribution of matter in Galaxies, some extremely surprising property. The investigation of single and coadded objects kinematics has shown that the mass profile of galaxies follow, from their centers out to their virial radii, an universal profile that suggests that the dark and luminous mass components in galaxies interact not only by brute gravitational force. These results poses important challenges to the presently theoretically favored Λ CDM Standard Cosmology and lead to the vision in which ordinary atoms in stars interact with this elusive particle.

Summary

Primary author: SALUCCI, Paolo (SISSA)

Presenter: SALUCCI, Paolo (SISSA)

Session Classification: Dark Matter & colliders

Track Classification: Dark matter & colliders