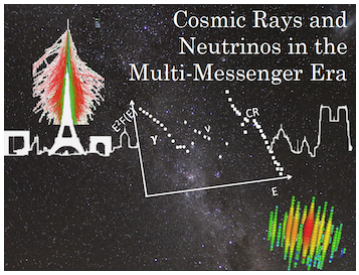

ID de Contribution: **64** Type: **Poster**

Testing cosmic ray composition models with very large volume neutrino telescopes

The composition in terms of nuclear species of the primary cosmic ray flux is largely uncertain in the knee region and above. The possibility of testing it in the measured flux of atmospheric leptons in very large volume Cherenkov detector such as IceCube and ANTARES has been tested in this contribution. Two possible models of cosmic ray composition have been used to produce pseudo-data sets and it is observed that a 2-sigma level of discrimination between composition fits can be already achieved with the current IceCube data sample, even though in a model-dependent way. Improvements in the energy reconstruction foreseen with the next generation neutrino telescopes, and the combination of their data-sets, is expected to make these instruments more sensitive to the differences between models.

Related session

CR Knee + Gamma sources + Galactic neutrinos

Auteurs principaux: FUSCO, Luigi Antonio (CPPM, Marseille); M. VERSARI, Federico (INFN Bologna - APC France)

Orateur: FUSCO, Luigi Antonio (CPPM, Marseille)