Contribution ID: **65** Type: **not specified**

Search for heavy dark matter decay with IceCube

Monday, 8 May 2017 15:24 (18 minutes)

Search for heavy dark matter decay with IceCube
Many heavy (m>100TeV) dark matter models predict the dark matter particle to decay into standard model particles, including neutrinos.
These neutrinos would produce a unique signal, both in terms of their energy and angular distributions, in the IceCube detector. This talk describes the search for such a signal using two years of high energy cascade data.
A combination of a dark matter decay signal and known backgrounds would be fitted to the data and compared to simulations. If no signal is observed, this analysis is expected to set a new lower limit on the lifetime of heavy dark matter particles. In the talk I will present the sensitivities and the first results.

Primary author: DUJMOVIC, Hrvoje (o=sungkyunkwan,ou=Institutions,dc=icecube,dc=wisc,dc=edu)

Presenter: DUJMOVIC, Hrvoje (o=sungkyunkwan,ou=Institutions,dc=icecube,dc=wisc,dc=edu)

Session Classification: Dark Matter

Track Classification: Dark Matter - Convenor: Carsten Rott, SKKU