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Are IceCube neutrinos unveiling PeV-scale decaying dark matter?

Thursday 19 September 2013 11:30 (25 minutes)

Recent observations by IceCube, notably two PeV cascades accompanied by events at energies \sim (30-400) TeV, are clearly in excess over atmospheric background fluxes and beg for an astroparticle physics explanation. In this talk I will discuss the possibility to interpret the IceCube data by PeV mass scale decaying Dark Matter. I discuss generic signatures of this scenario, including its unique energy spectrum distortion with respect to the benchmark E_ν^{-2} expectation for astrophysical sources, as well as peculiar anisotropies. A direct comparison with the data show a good match with the above-mentioned features. I further discuss possible future checks of this scenario.

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