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Interpreting the IceCube neutrinos by decaying heavy DM

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I will discuss the possibility to interpret the IceCube data by PeV mass scale decaying Dark Matter. The generic signatures of this scenario, including its energy spectrum as well as the peculiar anisotropies will be discussed. Also possible future checks of this scenario by EAS experiments, both by detecting the prompt gamma ray flux from decaying dark matter, or the induced anisotropies in the cosmic ray flux will be mentioned. I will also discuss possible improvements of the fit to IceCube data by considering a DM contribution in addition to the astrophysical power-law flux.

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