



量子物理学・ナノサイエンス第 215 回セミナー

On the non-detection of Glashow resonance in IceCube

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概要

IceCube is a km-cube Neutrino detector installed in South Pole about 2 km under Ice to detect Astrophysical and Cosmological neutrinos above 25 TeV energy. It is completed and fully operational since December 2010. So far about 82 high energy cosmological neutrinos are observed, but we don't know the sources and production mechanism of these neutrinos. Also according to theoretical calculation we should see many electron anti-neutrino events with energy 6.3 PeV from the decay of W-boson. This is called the Glashow Resonance (GR) but not a single event is observed yet. This non-detection of GR by IceCube put constraint on the type of sources in the Universe. Here I shall discuss about the type of sources which are compatible with the non-detection of GR events.

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