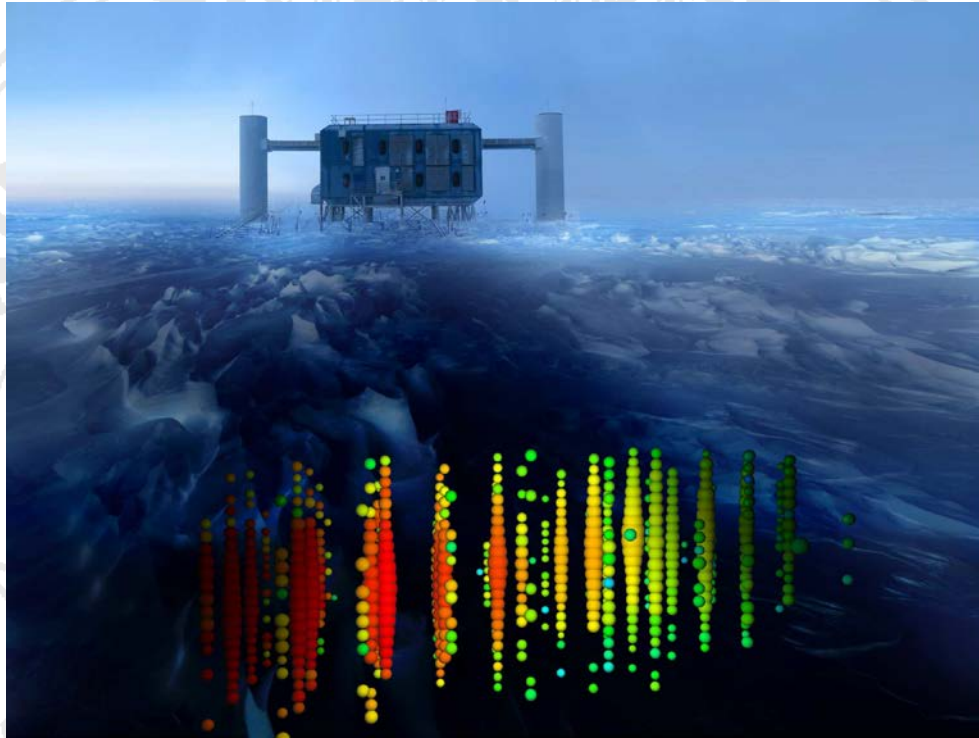


PHYSIKALISCHES KOLLOQUIUM

AM 24. JULI 2017 UM 17 UHR C.T.

IM HÖRSAAL I, PHYSIKHOCHHAUS



NEUTRINO PHYSICS AT THE SOUTHPOLE WITH ICECUBE

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The IceCube project has transformed a cubic kilometer of natural Antarctic ice into an incredible telescope, which allows to observe the deep universe through holes in the ice. The ice is instrumented with 86 lines of 60 photomultipliers each which detect more than 100,000 neutrinos per year in the GeV to PeV energy range. Among those, a flux of high-energy cosmic neutrinos has been discovered. I will discuss the results on astrophysical searches with IceCube neutrinos, the significance of this discovery and the future of this search. The large cosmic neutrino flux observed implies that the Universe's energy density in high energy neutrinos is the same as that in gamma rays, suggesting that the sources are connected and that a multitude of astronomical objects await discovery.