



Francesco Capozzi
Max Planck Institute for Physics, Munich

Neutrino oscillations in Dark Backgrounds

Friday, 15 February 2019, 11:30
Room A304

We examine scenarios in which a dark sector (dark matter, dark radiation, or dark energy) couples to the active neutrinos. For light and very weakly-coupled exotic sectors we find that scalar, vector, or tensor dark backgrounds may appreciably impact neutrino propagation while remaining practically invisible to all other phenomenological probes. While the propagation of neutrinos is affected in all experiments, atmospheric data currently represent the most promising probe of the new physics scale. We quantify the future sensitivity of the ORCA detector of KM3NeT and the IceCube experiment