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Progetto Speciale Multiasse "La Società della Conoscenza in Abruzzo" PO FSE Abruzzo 2007-2013 Piano degli Interventi 2009-2010-2011

CFA LECTURE SERIES

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Detection of Short Range Correlated nucleon pairs in charged-current neutrino interactions in ArgoNeuT

The LArTPC technique, with its full 3D imaging, precise calorimetric energy reconstruction and efficient particle identification allows the detailed reconstruction of final state event topologies from neutrino-nucleus interactions. A novel approach in neutrino data analysis is now being developed, based on the topological categorization of the event samples collected by the ArgoNeuT LArTPC experiment in the few-GeV energy range in the NuMI neutrino beam at Fermilab. We will report on the observation of two-nucleon knock-out events from neutrino interactions and discuss their topological features as involving the nucleon-nucleon short correlation content in the target argon nuclei.

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JUNE 16, 2015 – 2:30 PM LNGS - "E. MAJORANA" ROOM



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