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NA62: stato dell'esperimento

Thursday, 28 April 2011 18:40 (20 minutes)

NA62 is a fixed-target experiment located in the CERN experimental North Area. The beam is provided by SPS. During the first phase (2007->2010) the collaboration measured the ratio R_K = BR(K->e nu)/BR(K->mu nu). This measurement is sensitive to Standard Model (SM) deviations; in particular it can test lepton universality. The measurement was published in February 2011. During the second phase, the collaboration aims to measure BR(K^+->pi^+ nu nubar). Due to the sensitivity of this BR to new physics, this decay has a strategic role in the search for physics beyond the SM. The hadronic contribution to the uncertainty is small and the SM prediction is precise: (8.5+-0.7)10^-11. The apparatus is under construction and the first run is expected for Spring 2013. The detector status, prototype tests, and signal decay identification sensitivity compared with backgrounds, as well as the first-phase result on R_K, will be discussed.

Presenter: PALLADINO, Vito (NA)

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