

PHI 13 PSI 13

Contribution ID: 78

Type: **not specified**

Measurement of the ratio of charged kaon leptonic decay rates at NA62

Thursday, 12 September 2013 10:00 (20 minutes)

A lepton universality test by measurement of the helicity suppressed ratio R_K of leptonic decay rates of the charged kaon has been performed by the NA62 experiment. A precision measurement of the ratio R_K of the rates of kaon leptonic decays $K^{+-} \rightarrow e^+ \nu$ and $K^{+-} \rightarrow \mu^+ \nu$ with the full minimum bias data sample collected with low intensity 75 GeV/c beam by the NA62 experiment at CERN in 2007-2008 is reported. The result, obtained by analyzing ~150,000 reconstructed $K^{+-} \rightarrow e^+ \nu$ candidates with 11% background contamination, has a record precision of 0.4% and is in agreement with the Standard Model expectation. The record accuracy of 0.4% constrains the parameter space of new physics models with extended Higgs sector, a fourth generation of quarks and leptons or sterile neutrinos.

Presenter: KOZHUHAROV, Venelin (LNF)

Session Classification: Symmetries (II)