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Search for a low-mass dark-sector gauge boson with the BABAR detector

Monday, August 8, 2016 6:30 PM (2 hours)

We report searches for a new muonic dark force mediated by a gauge boson (Z') coupling only to the second and third lepton families. The existence of the Z' boson is probed in e+e- -> mu+mu- Z', Z' -> mu+ mu- events, with an analysis based on the full data sample collected with the BABAR detector at the PEP-II e+e- collider. No significant signal is observed. Limits on dark-sector coupling constants are derived; these improve upon current bounds, and further constrain the allowed parameter space.

Presenter: Prof. GODANG, Romulus (University of South Alabama)

Session Classification: Poster Session

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