Contribution ID: **203** Type: **not specified**

Recent results on low-energy e+e- annihilation into hadrons with initial state radiation with the BABAR detector

Thursday, 6 August 2015 14:20 (20 minutes)

The BABAR Collaboration has an extensive program of studying hadronic cross sections at low-energy e+e- collisions, accessible at the center-of-mass energy of about 10.6 GeV via initial-state radiation. Our measurements allow significant improvements in the precision of the predicted value of the muon anomalous magnetic moment. These improvements are necessary for shedding light on the current ˜3.5 sigma difference between the predicted and the experimental values. We report here the most recent results on several processes, including e+e- -> pi+pi-pi0pi0, e+e- -> K_S K- pi+ pi0 and e+e- -> K_S K- pi+ eta. The cross section is measured up to 4.5 GeV and the internal structure of the final hadronic states is studied. With the same technique we have also studied the charge asymmetry in the e+e- -> pi+pi- and mu+mu- reactions. The measured asymmetry is compared with QED predictions for muons, and theoretical models for pions. A clear interference pattern is observed for pions in the vicinity of the f2(1270) resonance.

Oral or Poster Presentation

Oral

Primary author: PORTER, Frank (Caltech)

Session Classification: QCD and Heavy Ions

Track Classification: QCD Experiment