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A Search for Beyond the Standard Model Particles with the PHENIX detector at RHIC YORITO YAMAGUCHI, CNS, the University of Tokyo, PHENIX COLLABORATION — The Standard Model (SM) has been established as the theory governing the elecroweak interactions, however several experiments report results that it can not explain, e.g. the excess of high-energy positrons observed by PAMELLA, AMS and the muon g-2 anomaly by E821 at BNL. These are considered as possible signatures of physics beyond the Standard Model (BSM). The PHENIX experiment is designed for the study of hot and dense QCD matter created in high energy heavy ion collisions, especially via high-precision measurements of leptons and photons. This makes it ideally suited for the detection of electron-positron pairs in the search for the BSM particles. In this talk, we will present the status of a recent search for BSM particles using the large sample of electron-positron pairs recorded since 2001.

Yorito Yamaguchi
CNS, the University of Tokyo

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