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Dark photon search in Dalitz decays at PHENIX YORITO YAMAGUCHI, Stony Brook University, PHENIX COLLABORATION — The dark photon is a hypothetical gauge boson of an additional U(1) gauge field, which couples to dark matter but not to ordinary matter. The dark photon mixes with ordinary photons and may possibly explain some experimental results which have been interpreted as signatures of Beyond Standard Model physics. Recently a dark photon search has been made using high statistics data from the PHENIX experiment at RHIC. We search for events which can contain electron pairs from dark photon in π^0 and η Dalitz decays. In this talk, we will report the latest status of the dark photon search at PHENIX.

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