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Search for the 7-prong tau decay RUBEN TER-ANTONYAN, Ohio State University, BABAR COLLABORATION — A long standing puzzle in τ lepton decays is the apparent suppression of decays with seven or more hadrons in the final state. We present results on the search for the τ decay into seven charged pions with and without a π^0, and a neutrino. Our data sample, a total of 232.2 fb^{-1} on and near the $\Upsilon(4S)$-resonance, was collected using the BaBar detector at the PEP-II asymmetric e^+e^--collider at the Stanford Linear Accelerator Center. The results from this analysis are a significant improvement over the previously established upper limit on the decay branching ratio.

Christopher Hearty
University of British Columbia

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