

## Recent dark sector searches from the BABAR experiment

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High statistics data sets collected in the region of the  $\Upsilon(4S)$  resonance can provide extremely powerful tests of possible physics beyond the standard model. Searches with the BABAR experiment at the SLAC PEP-II  $B$  factory have placed stringent constraints on possible dark-sector particles and interactions across a variety of models, for masses spanning the MeV - GeV range. Recent BABAR searches for low-mass dark sector particles will be described, and in particular, bounds are presented on  $B$  baryogenesis via  $B \rightarrow \mathcal{B}\psi_D$ , where  $\mathcal{B}$  is a standard model baryon and  $\psi_D$  is a dark sector antibaryon. These searches substantially constrain the parameter space for couplings within these  $B$  baryogenesis models.

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