

# **$\bar{d}14$ 1st cosmic ray antideuteron workshop**

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## **Antideuteron Production Measurements from BaBar**

*Friday, June 6, 2014 12:00 PM (30 minutes)*

As limits on their flux improves, cosmic ray antideuterons are expected to be a powerful low-background probe of dark matter annihilation to colored particles. Despite their promise in this field, the spectrum and rate of production of antideuterons from hadronization processes is still highly uncertain. We present measurements of the production rates of antideuterons in Upsilon ( $nS$ ) ( $n=(1,2,3)$ ) decays to hadrons and in continuum electron-positron annihilation to quarks performed using data collected by the BaBar detector running at the PEP-II asymmetric-energy electron-positron collider in the center-of-mass energy region near the Upsilon resonances. The results include the most precise measurement of the inclusive production rate in Upsilon(2S) decay and the first results from continuum annihilation and Upsilon(3S) decay.

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