Measurement of the Branching Fraction of $Y(4S)$ to $B_0$-$\bar{B}_0$ \(^1\)

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University of South Alabama — Based on a data sample of 476 million $B$-meson
anti-$B$-meson pairs collected at the Upsilon(4S) resonance with the BABAR detec-
tor at the PEP-II asymmetric-energy B-Factory at SLAC, we measure a model
independent measurement of the branching fraction of Upsilon(4S) decays to $B_0$ and
anti-$B_0$ pair. The $B$ mesons are reconstructed in the channel anti-$B_0$ decays to $D^*_+ +$
lepton anti-neutrino using a partial reconstruction method. Our result does not de-
pend on any branching fractions, the simulated reconstruction efficiency, the ratio
of the charged and neutral $B$-meson lifetimes, or assumption of isospin symmetry.
This measurement is important for normalizing many $B$-decay branching fractions.

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