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Improved Measurement of B+ −> rho+ rho0 and Precise Determination of the CKM Angle alpha

We present improved measurements of the
branching fraction, the longitudinal polarization fraction f_L,
and the direct CP asymmetry Acp in the B meson decay channel
B+ −> rho+ rho0. The data sample was collected with the BaBar
detector at SLAC. The results are
BF(B+ −> rho+ rho0) = (23.7 +/- 1.4 +/- 1.4) x 10ˆ-6,
f_L = 0.950 +/- 0.015 +/- 0.006, and Acp = -0.054 +/- 0.055 +/- 0.010,
where the uncertainties are statistical and systematic, respectively.
Based on these results, we perform an isospin
analysis and determine the CKM phase angle
alpha = arg(-VtdVtb/*VudVub*) to be (92.4 +6.0 -6.5) degrees.

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