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Search for neutral Supersymmetric Higgs bosons in bbb(b) final states in proton-antiproton collisions at 1.96 TeV

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A search for neutral Higgs bosons decaying into b-bbar, produced in association with b quarks in p-pbar collisions is presented. This process could be observable in supersymmetric models with high values of tan(beta) due to an enhancement of the production cross section. The event samples correspond to 2.6/fb of integrated luminosity collected with the CDF II detector and 5.2/fb of data from the D0 detector at the Fermilab Tevatron collider. We search for an enhancement in the mass of the two lead jets in events with three jets identified as coming from b quarks. Mass-dependent limits are set on sigma(p-pbar−>phi b) X BR(phi−>b-bbar) which are applicable for a narrow scalar particle produced in association with b quarks. The results are interpreted as limits on tan(beta) in supersymmetric Higgs models including the effects of the Higgs boson width.

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