

Abstract Submitted  
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**Search for Associated Production of  $Z$  and Higgs Bosons in the  $\ell\ell b\bar{b}$  Final State in  $p\bar{p}$  Collisions at  $\sqrt{s} = 1.96$  TeV** BETTY CALPAS, CPPM, Aix-Marseille Universite, CNRS/IN2P3, DZERO COLLABORATION — We present a search for a low mass standard model Higgs boson produced in association with a  $Z$  boson decaying to two electrons or two muons at a center-of-mass energy of  $\sqrt{s} = 1.96$  TeV with the D0 detector at the Fermilab Tevatron collider. The search is performed in events containing one or two  $b$ -tagged jets with of order  $4 \text{ fb}^{-1}$  of data, employing multivariate techniques for signal-to-background discrimination. No significant excess above standard model expectations is observed, and upper limits on the Higgs production cross section are derived. Recent improvements to the sensitivity will also be discussed.

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