

Abstract Submitted
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A Search for Bottomonium-like Resonances at the Collider Detector at Fermilab MARK SCHOTT, Wayne State University, CDF COLLABORATION — The Belle experiment recently reported evidence for two bottomonium-like charged resonances, $Z_b^+(10610)$ and $Z_b^+(10650)$, observed in decays from the $\Upsilon(5S)$. We present a search for these resonances in CDF data. In contrast to the Belle observation, we search for Z_b states directly produced in $p\bar{p}$ collisions and decaying to an $\Upsilon(1S, 2S, 3S)$ plus a charged pion. Since such a state must both be charged and contain a bottom and an anti-bottom quark, it would indicate a new hadronic state, for example, a tetraquark state. Starting from a sample of $\Upsilon(1S, 2S, 3S)$ candidates selected by their decay to $\mu^+\mu^-$, we add a pion and search for the Z_b resonances. We check the sensitivity by reconstructing $\Upsilon(2S, 3S) \rightarrow \Upsilon(1S)\mu^+\mu^-$ decay.

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