Search for SM Higgs boson using large missing $E_T$ plus b-jets final state at DØ

Makoto Tomot, Fermi National Accelerator Laboratory, DZERO Collaboration — We report on the search for the Standard Model Higgs Boson produced in association with the $Z$ Boson at the Tevatron $p\bar{p}$ Collider. In particular, we study the $p\bar{p} \rightarrow ZH \rightarrow \nu\nu b\bar{b}$ channel, which is one of the most sensitive in light Higgs Boson searches because of the large $Z \rightarrow \nu\nu$ branching ratio. The analysis starts from a sample of multi-jet events with large missing $E_T$, from where we select events with two b-jets and reconstruct the mass of the system. After properly subtracting the backgrounds, we measure the upper limit for $ZH$ production cross section based on $L=260$ pb$^{-1}$ of the data.

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