Visualizing Events and Optimizing Higgs Boson Analysis at DØ[1]

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— With the announcement of a new boson at the LHC, presentation and completion of the final analysis at D-Zero becomes a priority. The 3-D event visualization software D0Cafvis was debugged and used to create event displays of Higgs candidate events for use in presentations by the DØ collaboration. Following that work, optimizing the Higgs analysis began by training secondary Multi-Variate Analysis (MVA) tools to better separate Higgs events from the many Standard Model backgrounds that are produced in high energy collisions. These new MVAs have been added to the analysis framework at D-Zero and are now being used to complete the final analysis of the Tevatron's full Run IIb data set.

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