

Abstract Submitted
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Discovery of the Top Quark KAREN CHEN, Stony Brook University — The third generation of quarks was predicted by Kobayashi and Maskawa to explain CP violation. When the bottom quark was discovered, the search to find its isospin partner began. Measurements of the top quark mass were conducted by the CDF and D0 experiments at the Fermilab Tevatron using events consistent with top pair production. The top pairs decay into a pair of bottom quarks and a pair of W bosons with a nearly 100% branching ratio. These events result in dilepton final states (in which both W's decay into leptons) or lepton plus jets final states (in which one W decays into a lepton and the other into quarks). It is possible for both W's to produce quarks but this decay channel gives a low precision measurement. Even after the top quark's initial discovery, there was a demand for higher precision mass measurements. The experimental uncertainty associated with the top quark and W boson mass puts constraints on the mass of the Higgs boson. This may have important implications on the validity of the Standard Model.

- Prefer Oral Session
 Prefer Poster Session

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