

Abstract

Central exclusive production of a system X in a collision between two hadrons h is defined as $hh \rightarrow h + X + h$ with no other activity apart from the decay products of X . This thesis presents predictions for the production cross section of a CP violating supersymmetric Higgs boson and the radion of the Randall-Sundrum model.

The ExHuME Monte Carlo generator was written to simulate central exclusive processes and is described and explored. A comparison to di-jet observations made by the $D\bar{O}$ detector at the Tevatron, Fermilab between January and June 2004 is made and the distributions found support the predictions of ExHuME.