

Abstract Submitted  
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**Search for a Heavy Exotic partner of the top quark with charge  $5/3$**  SAPTAPARNA BHATTACHARYA, Brown University, CMS COLLABORATION — Presented is a study of searches for two exotic particles - a heavy top quark partner with a fractional charge of  $5/3$ ,  $T_{5/3}$ , and its partner, the heavy  $B$  quark with charge  $-1/3$ . These particles decay to a top quark and a  $W$  boson, leading to very busy events with multi-leptons and multi-jets. Processes where same-sign dileptons are produced are considered. The backgrounds are predominantly from  $t\bar{t}$ , QCD multi-jets,  $Z$ +jets,  $t\bar{t}WW$ ,  $t\bar{t}W$  and multiple- $W$ +jets production. A study using the data collected by the CMS detector at the LHC during 2011 has been performed.

Saptaparna Bhattacharya  
Brown University

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