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Search for long-lived charged particles using the CMS detector in Run 2

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Long-lived, charged particles are included in many beyond the standard model theories. It is possible to observe massive charged particles through unusual signatures within the CMS detector. We use data recorded during 2017-18 operations to search for signals involving anomalous ionization in the silicon tracker. Two new, enhanced methods are presented. The results are interpreted within several models including those with staus, stops, gluinos, and multiply charged particles as well as a new model with decays from a Z' boson.

Mini Symposia (Invited Talks Only)

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