

Abstract Submitted
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Identifying Boosted New Physics With Non-Isolated Leptons ALICE SADY, Johns Hopkins University, CHRISTOPHER BRUST, Perimeter Institute, PETAR MAKSIMOVIC, PRASHANT SARASWAT, Johns Hopkins University, MATTHEW T. WALTERS, Boston University, YONGJIE XIN, Johns Hopkins University — We demonstrate the utility of leptons which fail standard isolation criteria in searches for new physics at the LHC. These leptons could arise in a highly boosted signal decaying to both leptons and quarks, and have been missed by current search strategies. We offer an alternate signal-background discernment to the standard isolation variables, showing through a proof-of-principle search for R-parity violating supersymmetry both the experimental reach attained by including non-isolated leptons in this search and the utility of this new substructure variable over the existing techniques.

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