

Abstract Submitted
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Finding Supersymmetry without using Missing Transverse Energy JEFF HAAS, Florida State University — Missing transverse energy (MET) is a measure of the transverse momentum of particles that escape detection. One needs a complete understanding of the characteristics of the detector to obtain an accurate measurement of MET. Experience at the Tevatron suggests that it may take considerable time and effort to gain such an understanding. Therefore, it is of interest to investigate strategies to search for supersymmetry that do not rely on MET. I will investigate the supersymmetric (SUSY) parameter space accessible with rather low integrated luminosity, $0.1-1.0 \text{ fb}^{-1}$, at the Compact Muon Solenoid (CMS) experiment. If SUSY particles are relatively light, then the production cross sections can be huge, in the range 10^{5-6} fb , and a discovery in the early stages of running the Large Hadron Collider (LHC) may be possible. For gluino and squarks with masses $m_{\tilde{g}} \sim m_{\tilde{q}} \sim 400-750 \text{ GeV}$ the expected production cross sections are of the order 10^{4-6} fb for a signal with > 3 jets and > 2 isolated leptons.

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