

Anmeldung zur Frühjahrstagung der  
Deutschen Physikalischen Gesellschaft  
vom 29.03. bis 01.04.2004  
in Mainz

**Search for Squark Production in R-Parity violating SUSY at HERA** — ●JOHANNES HALLER for the H1 collaboration — c/o DESY FH1, Notkestrasse 85, Hamburg

A search for squarks production in supersymmetric models which allow  $R$ -parity violation has been carried out. Electron-proton and positron-proton collisions taken at a centre of mass energy of 320 GeV have been investigated using the H1 detector at HERA. The data correspond to an integrated luminosity of  $64.3 \text{ pb}^{-1}$  for  $e^+p$  collisions and  $13.5 \text{ pb}^{-1}$  for  $e^-p$  collisions. The resonant production of squarks of all 6 flavours via a  $R$ -parity violating Yukawa coupling  $\lambda'$  has been considered, taking into account  $R$ -parity violating and conserving decays of squarks. No significant deviation from the Standard Model has been found in any of the squark decay topologies investigated. The results are interpreted in terms of exclusion limits within the Minimal Supersymmetric Standard Model and the Minimal Supergravity Model. Squark masses below  $275 \text{ GeV}$  are excluded at 95% confidence level in a large part of the supersymmetric parameter space for a Yukawa coupling of electromagnetic strength. These limits represent the most stringent bounds on squark production at HERA so far.

Ort: Mainz  
Datum: 29.03.—01.04.2004  
Fachverband: Teilchenphysik  
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Mitgliedsstatus: Nichtmitglied