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Search for Charginos and Neutralinos  
in  $e^+e^-$  Collisions at  $\sqrt{s}$  up to 208 GeV  
and  
Mass Limit for the Lightest Neutralino

The ALEPH Collaboration

Contact person:

Fabiola Gianotti ([Fabiola.Gianotti@cern.ch](mailto:Fabiola.Gianotti@cern.ch))

PRELIMINARY

**Abstract**

Searches for pair production of charginos and associated production of neutralinos have been performed using the data collected with the ALEPH detector in the year 2000 at  $\sqrt{s} = 200 - 208$  GeV. This data sample corresponds to an integrated luminosity of  $\sim 217 \text{ pb}^{-1}$ . No evidence for a signal has been observed. The negative results of these searches have been translated into exclusion domains in the MSSM parameter space, assuming gaugino and sfermion mass unification and large sfermion masses. Under these conditions, chargino pair production and neutralino associated production are excluded for masses close to the kinematic limit over large portions of the parameter space. In addition, a 95% C.L. lower limit of  $39.6 \text{ GeV}/c^2$  has been set on the mass of the lightest neutralino for any  $\tan\beta$ .

*(ALEPH contribution to the 2001 Winter Conferences)*