

Long-lived Charginos in the Focus-point Region of the MSSM Parameter Space.

Monday, 4 June 2012 16:20 (0:20)

Abstract content

We analyse the possibility to get light long-lived charginos within the framework of the MSSM with gravity mediated SUSY breaking. We find out that this possibility can be realized in the so-called focus-point region of parameter space. The mass degeneracy of higgsino-like chargino and two higgsino-like neutralinos is the necessary condition for a long lifetime. It requires the fine-tuning of parameters, but being a single additional constraint in the whole parameter space it can be fulfilled in the Constrained MSSM along the border line where radiative electroweak symmetry breaking fails. In a narrow band close to the border line the charginos are long-lived particles. The cross-sections of their production and co-production at the LHC via electroweak interaction reach a few tenth of pb.

Primary author(s) : Dr. PAUCAR ACOSTA, Manuel Gerardo (IF-UNAM)

Presenter(s) : Dr. PAUCAR ACOSTA, Manuel Gerardo (IF-UNAM)

Session Classification : MSSM

Track Classification : Particles