Contribution ID : **18** Type : **Plenary Topical Talk (30 min)**

Single Top quark production at lepton colliders

Saturday, 22 October 2011 16:00 (0:30)

Abstract content

Single top quark production at the International Linear Collider (ILC) can be used to obtain high precision measurements of the Vtb CKM element as well as the effective tbW coupling. The single top production processes at lepton and photon (e+ e-, e- e-, e gamma and gamma gamma) colliders have been extensively studied at tree level. The reaction e gamma, is particularly suitable for precision studies, as it does not have the ttbar background. Compared to the ILC e+e- -> t b e- n_e process the e gamma reaction can yield a larger production rate and is directly proportional to the Vtb term. QCD corrections have been studied for both production cross sections. The QCD corrections for the cross section have been done in the context of an effective vector boson approximation. Previous studies for the e gamma -> t b n_e reaction yield an increase of order 5%. Our results for the ILC process show a 10% increase due to the strong interaction.

Summary

Primary author(s) : Dr. LARIOS, Francisco (Cinvestav-Merida); Dr. BOUZAS, Antonio (Cinvestav-Merida); Dr. PENUNURI, Francisco (Facultad de Ingenieria, Universidad Autonoma de Yucatan)

Presenter(s) : Dr. LARIOS, Francisco (Cinvestav-Merida)

Session Classification : Electroweak and Flavor Physics

Track Classification : Electroweak and Flavor Physics