HEP 2013
Stockholm
18-24 July 2013

Contribution ID: **159** Type: **Talk presentation**

Top quark mass measurements at and above threshold in e+e- collisions at Linear Colliders

Friday 19 July 2013 12:40 (20 minutes)

Linear electron-positron colliders provide possibilities for top quark mass measurements with unprecedented precision, which are of high relevance to explore the stability of the Standard Model. Two complementary techniques for the measurement of the top mass in
e+e- annihilation exist: The direct reconstruction of the invariant mass of the top quark decay products at energies above the top pair production threshold and the measurement of the mass in a threshold scan. Both of these approaches have recently been studied for CLIC using GEANT4-based detector simulations and full event reconstruction including realistic physics and beam-induced background levels. For both techniques, total errors of around 100 MeV or better are achieved, including a first study of expected systematic uncertainties. For the threshold scan, the precision at ILC is also studied to provide a
comparison of the two linear collider technologies.

Author: SIMON, Frank Richard (Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D)

Presenter: Dr ROLOFF, Philipp (CERN)

Session Classification: Top and Electroweak Physics

Track Classification: Top and Electroweak Physics