Contribution ID: **466** Type: **Parallel**

Prospects for light exotic scalar measurements at the e+e- Higgs factory

Extra light scalars are still not excluded by the existing experimental constraints, provided their coupling to the SM gauge bosons is sufficiently suppressed. They could be produced at the e^+e^- Higgs factory in a scalar-strahlug process, analogous to the Higgs-strahlung process being the dominant production channel for the 125 GeV Higgs boson. This was selected as one of the focus topics of the ECFA Higgs/Top/EW factory study. As the couplings of such a light scalar can be different from the SM predictions, various search strategies have to be considered. Presented are the expected cross section limits from the decay-mode independent search and from the search in the $b\bar{b}$ decay channel, based on a full simulation of the International Large Detector (ILD), supplemented with the expected sensitivity in di-tau and invisible decay channels, based on the fast simulation in the DELPHES framework, assuming 250 GeV ILC running scenario.

Secondary track

T09 - Beyond the Standard Model

Authors: BERGGREN, Mikael (LPNHE Paris VI&VII); BRUDNOWSKI, Bartlomiej (Faculty of Physics, University of Warsaw); NÚÑEZ PARDO DE VERA, María Teresa (DESY); ZEMBACZYNSKI, Kamil (Faculty of Physics, University of Warsaw); Prof. ZARNECKI, Aleksander Filip (University of Warsaw)

Presenters: BRUDNOWSKI, Bartlomiej (Faculty of Physics, University of Warsaw); NÚÑEZ PARDO DE VERA, María Teresa (DESY); Prof. ZARNECKI, Aleksander Filip (University of Warsaw)

Session Classification: T08

Track Classification: T08 - Higgs Physics