

We should aim for sufficient studies of direct new particle search based on ILD detector simulation for the “staging” option

Direct searched at $\sqrt{s} = 250$ GeV

$\sqrt{s} = 250$ GeV@ILC has far more luminosity than $\sqrt{s}=208$ GeV@LEP → there is room for large improvement
(see LEP SUSY limits (<http://pdg.lbl.gov/2016/listings/rpp2016-list-supersymmetric-part-searches.pdf>))

- Dark matter particles (WIMP, Mono-photon search)
- Not much left to be done for natural SUSY (Higgsinos) ?
(benchmark [$M_{\chi} \sim 100$ GeV, $\Delta M \sim 20$ GeV] excluded by LHC searches)

Direct searches at $\sqrt{s} = 350$ GeV *350 GeV under-estimated until now (?)*

- Higgsinos ($\Delta M < \sim 10$ GeV)
- Dark matter particles
- Extra spin-less bosons

JHEPC has set up a sub-committee to investigate the staging.

Progress report in March 18 at the JPS meeting, **final report expected in May**

need to begin taking actions in order to **provide results in a timely manner**

Please let us know of your opinions (work force, proposal for topics, etc...)