

Physics discussion: High Energy

panelists:

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Discussion Questions:

1. Can **electroweak symmetry breaking** or the hierarchy problem justify colliders of much higher energy? What are the most attractive models, and what (parton) CM energies must the new colliders reach?
2. Can models of dark matter with **heavy WIMPs** or other TeV-scale particles justify colliders of much higher energy? What CM energies must the new colliders reach?
3. What is the role of the **top quark** in the case for higher energy colliders? What target energy scale do BSM models with top suggest?
4. There are a number of regions in the parameter space of **SUSY** models with SUSY particles below 500 GeV that the LHC has great difficulty in accessing (e.g., due to small mass gaps). Do any of these give a compelling case for building a lepton collider?
5. Is there a compelling physics case **today** for building a 3 TeV lepton collider? What are the most important arguments to put forward?
6. Is there a compelling physics case **today** for building a multi-10-TeV lepton collider or a 100 TeV scale hadron collider? What CM energy should this collider reach?