
Physics Studies

For future VHE hadron colliders

Energy-dependence

For a future proton-proton machine 100 TeV has become a “standard” and a lot of studies have been performed on sensitivity for such a machine (e.g. [FCC CDR](#))

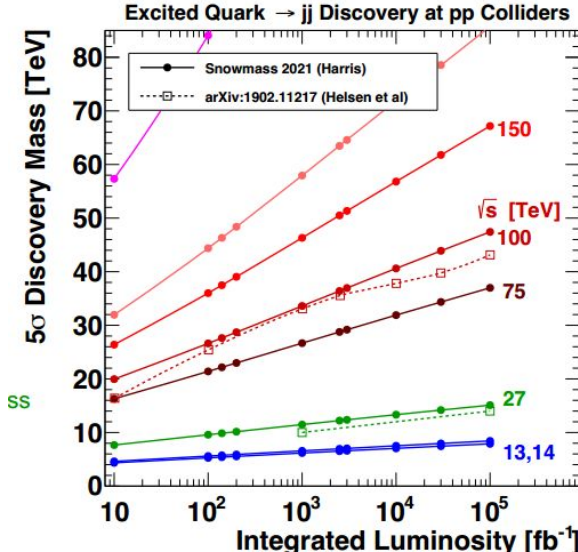
Significant interest in understanding dependence on the actual energy achievable

- Can impact realistic timescale and technology choices

Example: Excited quark reach at future colliders

Lack of such studies in Snowmass.
Many could be quite a simple scaling, but sometimes signal and backgrounds scale very differently..

Luminosity vs center-of-mass energy?



Other potential studies

Some interesting synergy between magnets/accelerators and performance of the detector near the interaction region.

- Especially challenging in an environment with very large pile-up expected

Interplay of detector design and expected shape of luminous region?

Advantages / disadvantages in event reconstruction?

- Challenging since we can barely run realistic simulations with nominal pile-up in such scenarios afaik