

Working Group II

WG2

Topic	Volunteers	Availability
Explore performance of observables/taggers and MC generator comparisons at much higher boosts (1-2 TeV)	Brain Shuve Marcel Vos David Lopez (H->bb) Ben Nachman Andy Buckley Sebastian Fleischmann Lucia Masetti	later Oct Oct Oct
Comment on Snowmass	James Dolen	limited
Prospects for analytical calculations at high pT	Simone Marzani	

Studies

- Explore performance of observables/taggers at much higher boosts
 - Which taggers/observables?
 - Jet mass, Nsubjettiness, other shape variables, jet charge, q/g
 - BDRS tagging
 - Top taggers: HEP, ATLAS, CMS, JH, TW...
 - Impact of grooming.
 - Which samples?
 - Signal: boosted $t\bar{t}$, W/Z , $H \rightarrow b\bar{b}$, W +jets?
 - Which generators?
 - What range in p_T ?
 - 1-2 TeV?
 - Figure of merit?
 - ROC curves – low p_T vs high p_T
 - Background rejection for fixed (50%) efficiency as a function of p_T .
 - Do we need to consider pile-up?

Studies

- MC generator comparisons at much higher boosts
 - Which observables/taggers?
 - Jet mass, Nsubjettiness, other shape variables, jet charge, q/g
 - For taggers compare background rejection at 50% efficiency with different bkgd generators as function p_T ?
 - Which generators/tunes?
 - Look at both QCD background and signal?
 - Do we need to overlay pile-up events here?

Studies

- Prospects for analytical calculations at high p_T ?
 - What are the issues versus lower p_T ?
 - Can we make any comparison of analytical calculation vs MC?

Studies

- Pile-up performance?
 - Are there holes in the studies already done?

- Anything else for WG2 at this stage?

Immediate Tasks

- Decide on observables/taggers.
 - Which do we want to study?
 - Which are already implemented or easy to implement in Fastjet+Rivet framework?
- Implement observables/taggers into existing Rivet framework.
- Attempt generation and production of plots.
- Look into overlaying pile-up events?

- Volunteers?