

# Minutes of the 12th SiD optimization meeting

*29-October-2014*

## **Present:**

Tim Barklow (TB)

Marty Breidenbach (MB)

Ignacio Garcia (IG)

Norman Graf (NG)

Jan Strube (JS)

Marcel Vos (MV)

Joel Goldstein (JG)

Marcel Stanitzki (MS)

## **Agenda and Points of discussion:**

1. Jet Reconstruction at Lepton Colliders (IG)
  - a. Jet clustering confusion is currently the dominant source of uncertainty in the analysis of complex final states.
  - b. The Valencia group devised a new algorithm that combines the beam jet from hadron kt algorithms with the distance of the Durham algorithm. First studies of the performance show that the rejection of ggHadron background is comparable with the longitudinally invariant kt Algorithm. At the same time there are indications that the  $\cos\Theta$  distance works better at high energy lepton colliders, since the jet resolution does not have the same strong dependence on R as the hadron-kt algorithm. This is important for a boosted top analysis, where good first results have been obtained using jet cleaning. Code has been released in the FastJet package.
  - c. Discussion on how to improve confusion in jet clustering. No clear target for detector optimization.