

Contribution ID: 129

Type: **Poster or pre-recorded talk**

## **Medium modified jet shape observables in Pb-Pb collisions at 2.76 TeV using EPOS and JEWEL event generators**

*Tuesday 13 July 2021 20:00 (2 minutes)*

The study of medium-induced modifications to the substructure of inclusive charged jets indicates a redistribution of energy inside the jet cone and provides insight into the energy loss mechanisms of jets in the medium. The in-medium modification to two jet shape observables i.e., the differential jet shape ( $\rho(r)$ ) and the angularity ( $g$ ) in the most central Pb-Pb collisions at 2.76 TeV has been investigated using JEWEL (recoil OFF) and EPOS-3 event generators in the jet- $p_T$  range of 20-40 GeV/c. Comparison between the results from these models shows that while JEWEL (recoil OFF) does not explain the distribution of lost energy at higher radii with respect to the jet-axis, EPOS-3 explains the effect quite well. However, in EPOS-3, the partonic energy loss mechanism and secondary hard-soft interactions during hadronization and hadronic cascade phase are different from the conventional jet energy loss models. This study can provide important new insights on mechanisms regarding the modeling of the medium and hard-soft interactions in heavy ion collisions.

### **Preferred track**

**Primary author:** Mr SAHA, Sumit Kumar (VECC)

**Co-authors:** Dr SARKAR, Debojit (Wayne State University); Dr CHATTOPADHYAY, Subhasis (VECC, HBNI); Dr SHEIKH, Ashik Iqbal (VECC, HBNI); Dr PRASAD, Sidharth Kumar (Bose Institute)

**Presenter:** Mr SAHA, Sumit Kumar (VECC)

**Session Classification:** Poster Session