11th International Workshop on Boosted Object Phenomenology, Reconstruction and Searches in HEP (BOOST 2019)

Contribution ID: **62** Type: **Plenary Talk**

A background estimator for jet studies in p+p and A+A collisions(10'+5')

Tuesday 23 July 2019 10:00 (15 minutes)

Jet reconstruction analyses at the high-luminosity phase of the LHC will face a similar challenge as current heavy-ion studies: how to mitigate the impact of the overwhelming and fluctuating energy coming from unrelated soft interactions (pileup/underlying event) on physical observables. In order to address this pressing issue, we propose to improve the momentum reconstruction resolution by exploiting intrinsic correlations among the soft and hard sectors of QCD jets. Our data-driven approach [1] results into a 5-40% improvement on the resolution of the reconstructed jet p_T compared to previous methods in a high-luminosity proton-proton scenario. Its applicability in a heavy-ion context will be also discussed.

[1] Yacine Mehtar-Tani, Alba Soto-Ontoso, Marta Verweij, arXiv:1904.12815

Author: SOTO ONTOSO, Alba (Brookhaven National Lab)

Co-authors: Dr MEHTAR-TANI, Yacine (Brookhaven National Laboratory); VERWEIJ, Marta (Vanderbilt University (US))

Presenter: SOTO ONTOSO, Alba (Brookhaven National Lab)

Session Classification: Session