



Contribution ID: 59

Type: **Lightning talk**

## Analyzing CMS Open Collider Data through Topic Modeling(10'+5')

*Thursday, July 25, 2019 4:00 PM (15 minutes)*

In this talk, I investigate jet substructure at the Large Hadron Collider with the CMS Open Data. I analyze a sample of jets from 2.3/fb of 7 TeV proton-proton collisions detected by the CMS experiment in 2011 with the companion simulated (both pre- and post-detector) datasets, focusing on a high-quality sample of jets with transverse momenta restricted to between 375 and 425 GeV. I further move to a specific analysis of jet classification using the unsupervised algorithm of jet topics to provide a new way of defining the categories of quark and gluon jets through their observable properties.

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**Session Classification:** Session