

# BOOST 2021 : 13th International Workshop on Boosted Object Phenomenology, Reconstruction and Searches in HEP

Contribution ID: 15

Type: **not specified**

## Spin-sensitive jet observables and their resummation

*Wednesday, August 4, 2021 4:30 PM (15 minutes)*

I present two novel jet observables, based on Lund-declustering, sensitive to the spin-correlations between partons within and between jets respectively (arXiv:2103.16526). I discuss the general structure of these observables for quark and gluon initiated jets at both fixed order and all orders in QCD. For the latter we have extended the MicroJets resummation code and the PanScales showers to include collinear spin correlations. The new observables and their resummation further open the pathway to phenomenological studies of these important quantum mechanical effects.

**Primary author:** Dr KARLBERG, Alexander (University of Oxford)

**Co-authors:** SALAM, Gavin (University of Oxford); SCYBOZ, Ludovic (University of Oxford); VERHEYEN, Rob

**Presenter:** Dr KARLBERG, Alexander (University of Oxford)

**Session Classification:** QCD Measurements + Spin Physics