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Jet physics with ATLAS

New physics searches using jet substructure are actively performed at the LHC era. There are several new techniques with ATLAS to extract the substructure information more precisely. A new particle-flow algorithm, unified-flow objects (UFOs), is recently developed to improve the resolution of the substructure variables. On top of that, to identify boosted W/Z/top/H decaying to hadrons, as well as unknown new particles which form the characteristic jet substructure, some new approaches are introduced, using some machine-learning techniques and/or new substructure representatives e.g. Lund-plane variables. The modeling of the jet substructure is an important key to improve the sensitivity. In this talk, I will summarize recent developments of the ATLAS jet substructure, and the status of the new physics searches using it.