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Overview of Recent Results from the ATLAS Experiment

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The heavy-ion program in the ATLAS experiment at the LHC originated as an extensive program to probe and characterize the hot, dense matter created in relativistic lead-lead collisions. In recent years, the program has also broadened to a detailed study of collective behaviour in smaller systems. In particular, the techniques used to study larger systems are also applied to proton-proton and proton-lead collisions over a wide range of particle multiplicities, to try and understand the early-time dynamics which lead to similar flow-like features in all of the systems. Another recent development is a program studying ultra-peripheral collisions, which provide gamma-gamma and photonuclear processes over a wide range of CM energy, to probe the nuclear wavefunction. This talk presents the most recent results from the ATLAS experiment based on Run 1 and Run 2 data, including measurements of
collectivity over a wide range of collision systems, potential nPDF modifications –using electroweak bosons, inclusive jets, and quarkonia –and photonuclear dijet production.

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