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A Search for New Physics using Trigger-Level Analysis with ATLAS BRYAN REYNOLDS, ANTONIO BOVEIA, EMMA TOLLEY, Ohio State Univ - Columbus, ATLAS COLLABORATION — Dijet events with invariant masses below 1 TeV are studied in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector for possible signs of new physics produced at the Large Hadron Collider. Searches for dijet resonances in this mass range are difficult because large Standard Model multijet backgrounds, combined with DAQ bandwidth constraints, force restrictions on the amount of data that may be collected. The Trigger-Level Analysis (TLA) technique solves this problem by recording partial events that contain only the subset of full event data that is necessary for the dijet search. This talk describes a search for new physics using TLA techniques to analyze dijet events, highlighting work done to study the performance of physics objects contained in partial events. Results from the most recent publications are presented.

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