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Search for dark matter mediators using a Trigger-Object Level Analysis with the ATLAS detector

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WE present a dijet resonance search, where a resonance may be an indicator of a dark matter mediator. However, the very high luminosity at the LHC has lead to high trigger thresholds that throttle the search at mediator masses below 1 TeV using conventional data taking techniques. A technique, known as the Trigger-Object Level Analysis, has been developed to lift this limitation. The technique achieves this by saving only final-state objects at trigger level, thus occupying a tiny amount of bandwidth and enabling the use of lower threshold triggers to record a high rate of events. I will be presenting the most recent results for the search for dark matter mediators and hadronic dijet resonances using this technique.

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