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Hierarchical searches for gravitational-wave transients with Advanced LIGO RYAN LYNCH, Massachusetts Inst of Tech-MIT, LVC COLLABORATION — As part of the multiple pipelines invoked in the search for gravitational-wave transients with the Advanced LIGO detectors, we have implemented an independent hierarchical algorithm to complement the constrained likelihood approach that has been used in all previous searches. This hierarchical search combines an incoherent, excess-power analysis of single interferometer strain data using the Q-transform with a fully coherent Markov chain Monte Carlo Bayesian evidence follow-up. The pipeline has been designed to operate in real-time. We will present the status of the search for unmodeled gravitational-wave transients with Advanced LIGO using this pipeline and discuss its performance during O1 as well the prospects for the future observing runs.

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