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Characterization of Advanced LIGO detectors to validate gravitational-wave signals MARISSA WALKER, Cal State Univ-Fullerton, LIGO-VIRGO COLLABORATION COLLABORATION — The Advanced LIGO gravitational-wave detectors recently completed an exciting second observing run, making several observations of binary black hole mergers and the first binary neutron star merger. We performed an extensive series of checks to characterize the detectors at the time of each detection, to determine (or rule out) the influence of instrumental and environmental noise on the signals. This talk will give an overview of the process of validating gravitational-wave events, including examples from detections made during the second observing run.

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