

# STATUS AND PERFORMANCE OF THE ADVANCED VIRGO DETECTOR DURING THE OBSERVATION RUN 3

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The LIGO-Virgo Observation Run 2 (O2, November 2016 - August 2017) was fruitful with several gravitational-wave events detected. The Advanced Virgo detector joined the two Advanced LIGO detectors on August 1<sup>st</sup> and the last four weeks of the run were marked by the first three-detector observations of binary black hole mergers and the first ever detection of a binary neutron merger, followed by the discovery of its optical counterpart. After the end of the data-taking period, the two collaboration have carried out ambitious upgrade programs for about a year and a half. This phase came to a close this spring and the three instruments moved then to the Observation Run 3 (O3), a joint data-taking period that will last a year. This talk will summarize the 2017-2019 upgrades of the Advanced Virgo detector, show its significant performance improvements and illustrate them with a summary of the first months of the O3 data taking.