FROM OPEN PUBLIC ALERTS TO GRAVITATIONAL-WAVE CANDIDATES DURING THE LIGO-VIRGO THIRD OBSERVATION RUN O3

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One of the main challenges for the LIGO-Virgo Observation Run 3 (O3), 12 months of data taking plus a 1-month commissioning break between April 2019 and April 2020 – was to deliver reliable and timely public alerts to a large community of astronomers looking for counterparts of the gravitational-wave candidate signals. In this talk, I will describe the way such public alerts have been generated during O3, summarize the performance of the low-latency LIGO-Virgo framework and focus on the procedures used to vet the data quality of the candidate events. I will conclude by discussing prospects of improvements for future data-taking periods.