

VIRGO DETECTOR CHARACTERIZATION ACTIVITIES DURING THE O3 RUN:
FROM LATENCY TO GRAVITATIONAL-WAVE EVENT VALIDATION

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Detector characterization (DetChar) is a key component of the direct search for gravitational waves (GW) performed by the LIGO-Virgo global network of large-scale ground-based interferometric detectors. DetChar contributions are manifold: to vet the GW transient candidates detected by the astrophysical analyses; to help these methods to reduce their false alarm rate and hence increase their sensitivity; to support detector activities by hunting down noise sources, monitoring changes in the instrument performance and more globally assessing the quality of the raw and reprocessed data. In this talk, I will focus on the Virgo DetChar activities, describe the framework implemented to deal with the ongoing joint LIGO-Virgo Observation Run 3 (O3) such as the tools available for DetChar investigation. Performance of the system will be illustrated by looking at the first few months of the O3 run.