

Abstract Submitted
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Developing LIGO Detector Characterization Tools and Methods

CESAR COSTA, Louisiana State University — Laser Interferometric Gravitational-Wave Observatory (LIGO) has been in constant process of improvement to achieve its main goal: the detection of gravitational waves (GWs). For the current science run (S6), improved control systems have been installed in order to increase the instrument sensitivity. The LIGO Detector Characterization (DetChar) Group works to understand how such devices and environmental sources could affect the GW channel, specially when they contaminate measurements by introducing spurious signals. To decrease false alarm rates DetChar monitors several auxiliary channels in order to diagnose environmental and instrumental glitches which can produce GW signal-like events. This improves the data quality for GW searches, and also informs commissioners about instrumental issues. This talk describes the methodology that we have been applying to LIGO Detector Characterization, specially glitch hunting and monitoring tools.

Cesar Costa
Louisiana State University

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