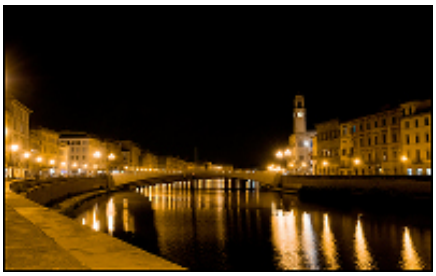

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Strategy for signal classification to improve data quality for Advanced Detectors gravitational-wave searches

Wednesday, 19 October 2016 12:30 (20 minutes)

Noise of non-astrophysical origin contaminates science data taken by the Advanced Laser Interferometer Gravitational-wave Observatory and Advanced Virgo gravitational-wave detectors. Characterization of instrumental and environmental noise transients has proven critical in identifying false positives in the first aLIGO observing run O1. In this talk, we present three algorithms designed for the automatic classification of non-astrophysical transients in advanced detectors. Principal Component Analysis for Transients (PCAT) and an adaptation of LALInference Burst (PC-LIB) are based on Principal Component Analysis. The third algorithm is a combination of a glitch finder called Wavelet Detection Filter (WDF) and machine learning techniques for classification.

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