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Study of Narrowband Noise in Gravitational Wave Interferometers THILINA SHIHAN WEERATHUNGA, University of Texas, Brownsville — Narrowband noise in LIGO (Laser Interferometer Gravitational Wave (GW) Observatory) restricts usability of GW data for astrophysical searches and reduces sensitivity of the searches. Attempts to remove these narrowband noise features in GW data have been in the works for a long time. All the line removing algorithms require a complete list of lines and line information such as central frequency and width of lines, present in the data. The problem with preparation of such a database is the fact that the lines are non-stationary and the non-stationarity of the lines is unpredictable depending on the operating conditions of the instrument and can occur both on a short time-scale as well as on a long time-scale. This work presents a new technique for dynamically identifying and cataloguing the narrow band line features present in GW data.

Thilina Shihan Weerathunga
University of Texas, Brownsville

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