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**Identifying High Frequency noise using the Bilinear Coupling Veto** SUDARSHAN GHONGE, LAURA CADONATI, Georgia Inst of Tech, NAIRWITA MAZUMDER, Washington State University, LIGO COLLABORATION — Short duration transients or glitches from terrestrial and instrumental sources can couple into the Laser Interferometer Gravitational-Wave Detector (LIGO). These glitches can potentially mimic Gravitational Waves (GW) from astrophysical sources and must be vetoed out. They are characterized by a central frequency which ranges from a few Hertz to several Kilohertz. The recent observation of GWs from the coalescence of a binary neutron star merger, GW170817 in the second observational run (O2) by LIGO, pushed the frequency range of interest to the high frequency region beyond 2 Kilohertz. To veto glitches in this range, we use the Bilinear Coupling Veto (BCV) pipeline. BCV helps determine correlations in a pair of glitches appearing in the noise channels x(t) and the gravitational wave strain channel h(t). Other veto techniques already in place infer correlations using statistical properties of the glitch pairs such as duration, central time etc. without actually dealing with the time series data. BCV is unique in that it calculates the linear correlation coefficient between the time series data representing the glitch pair. We present the status of tuning the BCV pipeline for data collected during O2.

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