Abstract Submitted
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A tool for monitoring frequency combs in LIGO data RYAN MAGEE, SUKANTA BOSE, Washington State University, GREGORY MENDELL, LIGO — We describe a tool that we have developed for finding combs of frequencies in LIGO data in order to characterize the detector and assist in the search for astrophysical sources. Lines add to the overall noise estimates when filtering data, and can interfere with continuous and stochastic gravitational wave searches if they are not identified and vetoed. Locating combs will allow us to characterize the noise environment of subsystems, highlight potential problems with the interferometers, and identify features that we might try to mitigate in future commissioning work. The challenge is to create a method that will be able to find combs in real time to help us analyze the system. We have developed an algorithm to list both the tooth spacing and comb frequencies, and current extensions aim to use Chi-squared statistics to determine the false-alarm rates for these combs.

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