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Abstract for an Invited Paper
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Gravitational Wave Data Analysis

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The last few years have seen the first direct detections of gravitational waves from merging compact binaries using data from laser interferometers. The typical amplitude of the raw detector noise is much higher than that of the signals, which necessitates the use of sophisticated signal processing techniques in the process of detection and source-characterization. These techniques have typically not performed as ideally expected, due to imperfect noise modeling. Recently, we performed the first independent searches of the LIGO data, in which we improved the modeling of the detector noise, and consequently the reach of public data from previous runs. We rediscovered all of the official LVC events, as well as several new binary black hole mergers (effectively doubling the population known so far). I will present an overview of our methods and results.

¹Added my correct name and affiliation