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Search for gravitational waves from compact binary systems in the third and fourth LIGO science runs. THOMAS COKELAER, Cardiff University, LIGO SCIENTIFIC COLLABORATION — We report on a search for gravitational waves from compact binary systems during the third and fourth LIGO science runs. In our analysis, we considered compact binary systems made of two primordial black holes, or two neutron stars, or two binary black holes, with a total mass between 0.6 and 40.0 solar mass. We analysed more than 1300 hours of coincident data between at least two of the LIGO interferometers. We describe the different aspects of the search for gravitational waves which encompass software injections, background estimate, and the challenge of detecting the presence of binary signal in the LIGO data. We present here the preliminary results which arise from this search for each of the binary system considered.

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