Abstract Submitted
for the APR16 Meeting of
The American Physical Society

The "Uberbank": A search for compact binary coalescences in the first Observing run of Advanced LIGO COLLIN CAPANO, Max Planck Inst for Gravitational Physics, LIGO SCIENTIFIC COLLABORATION AND THE VIRGO COLLABORATION — Modeled searches for gravitational waves from compact binary coalescence (CBC) use a "bank" of template waveforms to search the wide range of parameters that binaries may have. Recent advances in waveform modeling and template placement techniques have opened up the possibility to efficiently search for systems with non-precessing spin, using waveforms that model the inspiral, merger, and ringdown of coalescing binaries. I discuss how these advances were combined to produce the template bank used to search for CBCs in the first observing run of Advanced LIGO. This bank covered the full range of plausible masses and non-precessing spins of binary neutron stars, stellar-mass binary black holes, and binaries consisting of a neutron star and a stellar-mass black hole.

Collin Capano
Max Planck Inst for Gravitational Physics

Date submitted: 08 Jan 2016 Electronic form version 1.4