

Abstract Submitted  
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**Centihertz to Kilohertz: Multi-band GW Astronomy**<sup>1</sup> RHONDALE TSO, DAVIDE GEROSA, YANBEI CHEN, Caltech — The expectation of further gravitational wave events from current and upcoming observing runs by LIGO will be greatly enhanced by the space mission LISA. Black hole binaries, with masses similar to GW150914, will be detectable by both experiments, thus providing a unique multi-band view of such systems, from the decihertz to the centihertz regime. Simultaneous observations from space and the ground will provide accurate sky localization, mass estimates, and coalescence times. Along with these improvements are enhanced tests of general relativity and cosmological measurements. This talk will overview the potential LIGO, LISA, and third generation detectors will have at (i) extending tests of general relativity and (ii) measuring cosmological parameters using multi-wavelength observations.

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