

# Evaluating the GW detectability of stellar populations using BPASS and LEGWORK

*Monday, 23 October 2023 14:45 (15 minutes)*

Using BPASS, we have created population synthesis models for several types of stellar populations, including open clusters, globular clusters and the LMC. We focus particularly on the binaries in these populations that generate GWs which may be detectable by LISA, and we evaluate the detectability using LEGWORK. We find that MW globular clusters typically contain a few binaries in the LISA frequency range, but only a small fraction of these would be detectable. Our overall numbers are lower than those of other predictions of GWs from globular clusters, which we attribute to the BPASS models not including dynamical interactions that would occur in dense clusters. Finally, we discuss our proposed method of including these dynamical effects in our simulations.

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**Session Classification:** Astrophysics & Cosmology

**Track Classification:** Astrophysics & Cosmology