

Gravitational wave spectral synthesis

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Using stellar models from BPASS population synthesis, we calculate the full GW spectrum of a stellar population, including all types of compact binaries as well as those with living stars. We use these results to look at the detectability of star clusters with LISA. We find at late times the dominant sources are WD–WD binaries, but surprisingly at earlier times we find a significant population of NS–WD and BH–WD binaries. This suggests that star clusters may be strong emitters of GWs throughout their evolution.

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