

Parameter estimation for inspiralling MBH binaries in LISA

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Massive black hole binaries (MBHBs) of $10^5 M_{\odot} - 3 \times 10^7 M_{\odot}$ merging in low redshift galaxies ($z \leq 4$) are sufficiently loud to be detected weeks before coalescence with LISA. This allows us to perform the parameter estimation *on the fly*, i.e. as a function of the time to coalescence during the inspiral phase, relevant for early warning of the planned LISA protected periods and for searches of electromagnetic counterparts.

I will present the results for the estimates of the sky position, luminosity distance, chirp mass and mass ratio uncertainties as function of time left before merger for a wide range of sources. While we find generally good constrains for the latter three, the sky position appears to be determined with sufficient accuracy only for relatively light and nearby systems and only close to merger. I will also discuss the multi-messenger potentials and possible synergies with electromagnetic facilities.

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