

Waveform challenges for the parameter estimation of binary black hole signals with LISA

The future LISA detector will enable the detection of supermassive black hole coalescences, as well as stellar mass black hole inspirals in the lower-frequency band of the gravitational waves spectrum, complementing ground-based observations of gravitational waves by LIGO and Virgo and their successors. To simulate realistically the recovery of individual source parameters by LISA, accurate waveform models are needed, together with a complete treatment of the instrument response carrying itself information about the source. The assessment of the LISA scientific performance remains to be explored with state-of-the-art waveform models. We highlight recent results showing the importance of subdominant harmonics in the signal, as well as the frequency dependency in the instrument response. We review briefly prospective waveform requirements for LISA.

Auteur principal: MARSAT, Sylvain (APC, Paris)

Orateur: MARSAT, Sylvain (APC, Paris)