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## Parameter Estimation of Stellar Mass Binary Black Holes under the Network of TianQin and LISA

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In this report, the authors present their Bayesian parameter estimation progress in inferring the properties of stellar mass binary black holes using the TianQin and LISA missions, alone and in combination. Two representative stellar-mass black hole binary (BBH) systems, GW150914 and GW190521, are chosen as fiducial sources. The work focuses on establishing the ability of TianQin to infer the parameters of these systems and applies the full frequency response in TianQin's data analysis for the first time.

In this report, the authors will present parameter estimation results for the two BBH systems and discuss the correlation between the parameters. They also found that the TianQin+LISA combination could marginally increase the parameter estimation precision and narrow the  $1\sigma$  uncertainty area compared to individual observations from TianQin and LISA.

Finally, the report highlights the importance of accounting for spin effects when the binary components have non-zero spins, as significant deviations are found especially in the mass, coalescence time, and sky location estimates.

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