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Space-Based Gravitational Wave Observations in the Mid-Band Frequency Region

Monday 23 September 2019 09:30 (45 minutes)

The opportunity exists to scientifically explore the intermediate Gravitation Wave (GW) frequency detection band, a region that is in between those accessible by LISA and LIGO. A GW mission operating in this part of the GW band will complement and enhance the scientific capabilities of both LIGO and LISA. Such a mission entails three drag-free satellites in a geosynchronous trajectory resulting in a triangle formation of arm-length equal to 73000 km and an observational frequency band that is "blue-shifted"with respect to that of LISA by about a factor 70. Because of the complementarity of the observational bandwidths and sensitivities of the two missions, their joint operation will result in an enhanced scientific return over those obtainable by each observatory operated as stand-alone.

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