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Extreme mass ratio inspirals

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Extreme mass ratio inspirals (EMRIs) are among the
most promising sources for space-based gravitational wave detectors. For EMRIs, the small compact object spends the last few years inspiralling deep inside the strong gravitational field around the massive BH with a highly relativistic speed. The emitted GWs from EMRI/IMRI encode rich information about the spacetime geometry around the MBH and the environment of the host galaxy, so they can be used to confirm whether the MBH is a Kerr BH predicated by GR. In this talk, I will talk about the probe of scalar and vector charges carried by the secondary BHs in EMRIs with space-based gravitational wave detector.

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