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Black hole quasi-normal mode spectroscopy with LISA¹ MANISH M. JADHAV, LIOR M. BURKO, University of Alabama in Huntsville — We present an improved estimate of the signal-to-noise ratio (SNR) from the ring-down phase of coalescing equal mass black hole binaries for the NASA/ESA space-borne interferometer LISA (Laser Interferometer Space Antenna). The usual angle-averaged expressions of spin-weighted spheroidal harmonics have been replaced by Monte-Carlo expressions, computed from randomly generated angles for detector–source directions and black hole orientations. For a given "radiation efficiency" $\epsilon_{\rm rd}$, we use randomly generated "radiation efficiency per polarization" $\epsilon^{+,\times}$ to estimate the non-angle-averaged, polarization- phase-dependent SNR for Schwarzschild and Kerr black holes.

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