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# Estimating the Detection Horizon for Core-Collapse Supernovae

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Core-collapse supernovae are one of the most anticipated gravitational wave sources in the frequency band of the Einstein Telescope (ET). A detection of such an event can provide crucial information on the processes occurring during the final stages of massive stars and open perspectives in multi-messenger astronomy. Compared to current detectors, capable of measuring supernovae within a fraction of our galaxy, the improved sensitivity of ET will significantly increase the observable volume and, therefore, the expected event rate. Likelihood-based matched filtering gives an upper-limit estimate of the detection horizon for core-collapse supernovae. However, due to the highly stochastic nature of the core-collapse process, matched filtering is not applicable in burst searches. Thus, non-template-dependent methods are additionally investigated.

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