



Erratum: “Gravitational-wave and Gravitational-wave Memory Signatures of Core-collapse Supernovae” (2024, ApJ, 975, 12)

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In Section 8: Mean Detection Rate, the integrals in Equations (27) and (28) were not computed correctly. While the rate calculation procedure and the formulation of the integrals are correct, the final numerical value computed should be 0.237 for Equation (27) and 0.921 for Equation (28). For the matter strain seen by the Advanced LIGO detector and assuming the alactic core-collapse supernova (CCSN) rate from S. M. Adams et al. (2013), these changes correspond to an expected Galactic CCSN gravitational-wave (GW) rate $\frac{3.2}{\text{century}} * 0.237 = \frac{0.758}{\text{century}}$, or a detection once every 132 yr. For the Galactic CCSN rate from K. Rozwadowska et al. (2021), the new GW detection rate is $\frac{1.63}{\text{century}} * 0.237 = \frac{0.386}{\text{century}}$, or a detection once every 259 yr. For the calculation in Equation (28) and using the S. M. Adams et al. (2013) CCSN rate estimate, this change to the calculation corresponds to a CCSN GW detection rate of $\frac{3.2}{\text{century}} * 0.921 = \frac{2.95}{\text{century}}$, or a detection around once every 34 yr. For the K. Rozwadowska et al. (2021) Galactic CCSN rate, this corresponds to a rate of $\frac{1.63}{\text{century}} * 0.921 = \frac{1.47}{\text{century}}$, or a detection once every 68 yr.

These changes to Equations (27) and (28) only affect the Advanced LIGO GW detection rates mentioned in Section 8, the conclusion, and the abstract, and do not affect any of our plots, tables, or other results in this article.

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References

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