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Erratum: "Cosmic Collision: Insights from Magnetohydrodynamic Simulations of a Colliding Neutron Star and White Dwarf"

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We hereby correct the submitted report with regard to the missing citation at the start the last paragraph of section 4.1 on page 7. The paragraph in question should instead read:

"Another notable aspect examined is the linear correlation observed between the unbound velocity and radial distance. This can be observed in figure 3.2. This proportionality is known as homologous expansion, a phenomenon frequently observed in astrophysical explosions H. J. G. L. M. Lamers & E. M. Levesque (2017) where material moves outward such that its velocity linearly increases as a function of distance."

We also correct the end of section 4.2 that ends abruptly with section 4.2.1. Instead 4.2.1 should be stricken and the following paragraph should be appended to section 4.2:

"Finally it is note worthy that there is a remnant that survives this NS-WD CCSI, as can be seen in the bottom right panel of Figure 1. This remnant consists of NS with ~ 2 *solar masses of bound material from the white dwarf forming some sort of envelope. Further work is necessary to constrain the composition of this exotic stellar object and to determine what novel properties it presents, if any."*

We further wish to correct a statement we made in section 3.1 where we stated the Neutron Star and White Dwarf" collide at t = 14.03 s (see the third plot of Figure 1)". This requires a caveat as the 14.03 s is not the time of impact or contact but the time of minimum separations as such that sentence in its entirety should read:

"As the WD and the NS move closer to each other, they reach their centres of mass reach their minimum separation at t = 14.03 s (see the third plot of Figure 1)."

We correct the outputs listed in table 1 which erroneously contains the outputs from a prior iteration of the simulation. The corrected table should read:

Table 1. "Bound and unbound mass percentages for the final snapshot, with and without including internal energy"

	Bound mass	Unbound mass
E_{int}	26.8%	73.2 %
No E_{int}	27.5 %	72.5 %

We finally wish to address the claim we make in section 4.3 that "Understanding the deaths of stars and their aftermaths not only helps us place key constraints on stellar evolution and allow for interesting exploration of transient events, but contextualise their broader impact on larger areas of astronomy such as the composition of the interstellar medium (ISM), galactic evolution, and origins of life." While this point is broad enough to be supported by the zeitgeist of astronomy, it is, for academic completion, worth providing the citations to G. Meynet et al. (2015); T. M. Hoehler et al. (2018) and E. Toguchi-Tani et al. (2024) for the connection to the ISM, the origins of life respectively, and galactic evolution respectively.

No other result nor the overall conclusion of the submitted report is affected by the present correction.

REFERENCES

Hoehler, T. M., Som, S. M., & Kiang, N. Y. 2018, in Handbook of Exoplanets, ed. H. J. Deeg & J. A. Belmonte, 74, doi: 10.1007/978-3-319-55333-7_74

Lamers, H. J. G. L. M., & Levesque, E. M. 2017, Understanding Stellar Evolution

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Toguchi-Tani, E., Spoo, T., Frinchaboy, P., & Tayar, J. 2024, in American Astronomical Society Meeting Abstracts, Vol. 243, American Astronomical Society Meeting Abstracts #243, 458.03