

Erratum: three-dimensional delayed-detonation models with nucleosynthesis for Type Ia supernovae

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1 ERRATUM

Much to our dismay, we have noticed that the scale of the horizontal axis in fig. 8 of Seitenzahl et al. (2013a) is incorrect. The error arose from an incorrectly set upper limit of the velocity range in the histograms used for plotting. The corrected version of fig. 8 is shown here. We note that this mistake only affects fig. 8 and numbers quoted in the text that were read off fig. 8. Total yields given in the original paper are unaffected. Furthermore, the results of Sim et al. (2013), Seitenzahl et al. (2013b) and Liu et al. (2013) are also unaffected. As a result of the error in the plot, the following quantitative statements in the section ‘Spatial and velocity distribution of nucleosynthetic yields’ change as indicated.

Old: as a general trend, ^{56}Ni is hardly present at velocities above $\sim 12\,000\text{ km s}^{-1}$.

New: as a general trend, ^{56}Ni is hardly present at velocities above $\sim 15\,000\text{ km s}^{-1}$.

Old: the brightest models (small number of ignition kernels) contain IMEs from the highest expansion velocities down to $\sim 6000\text{--}7000\text{ km s}^{-1}$.

New: The brightest models (small number of ignition kernels) contain IMEs from the highest expansion velocities down to $\sim 8000\text{--}12\,000\text{ km s}^{-1}$.

Old: notably, carbon and oxygen are extending down to low velocities. There is always some carbon present down to or even below velocities of $12\,000\text{ km s}^{-1}$. Note that this is much lower than what has been found for W7 (Nomoto, Thielemann & Yokoi 1984; Iwamoto et al. 1999; Maeda et al. 2010). Oxygen reaches down even farther, always present below $\sim 8000\text{ km s}^{-1}$ and sometimes even reaching to the very centre.

New: notably, carbon and oxygen are extending down to low velocities. There is always some carbon present down to velocities of $17\,000\text{ km s}^{-1}$ and in most models it extends even lower down to $\sim 12\,000\text{ km s}^{-1}$. Oxygen reaches down even farther, always present below $\sim 10\,000\text{ km s}^{-1}$ and sometimes even reaching to the very centre. Note that these oxygen velocities are much lower than what has been found for W7 (Nomoto et al. 1984; Iwamoto et al. 1999; Maeda et al. 2010).

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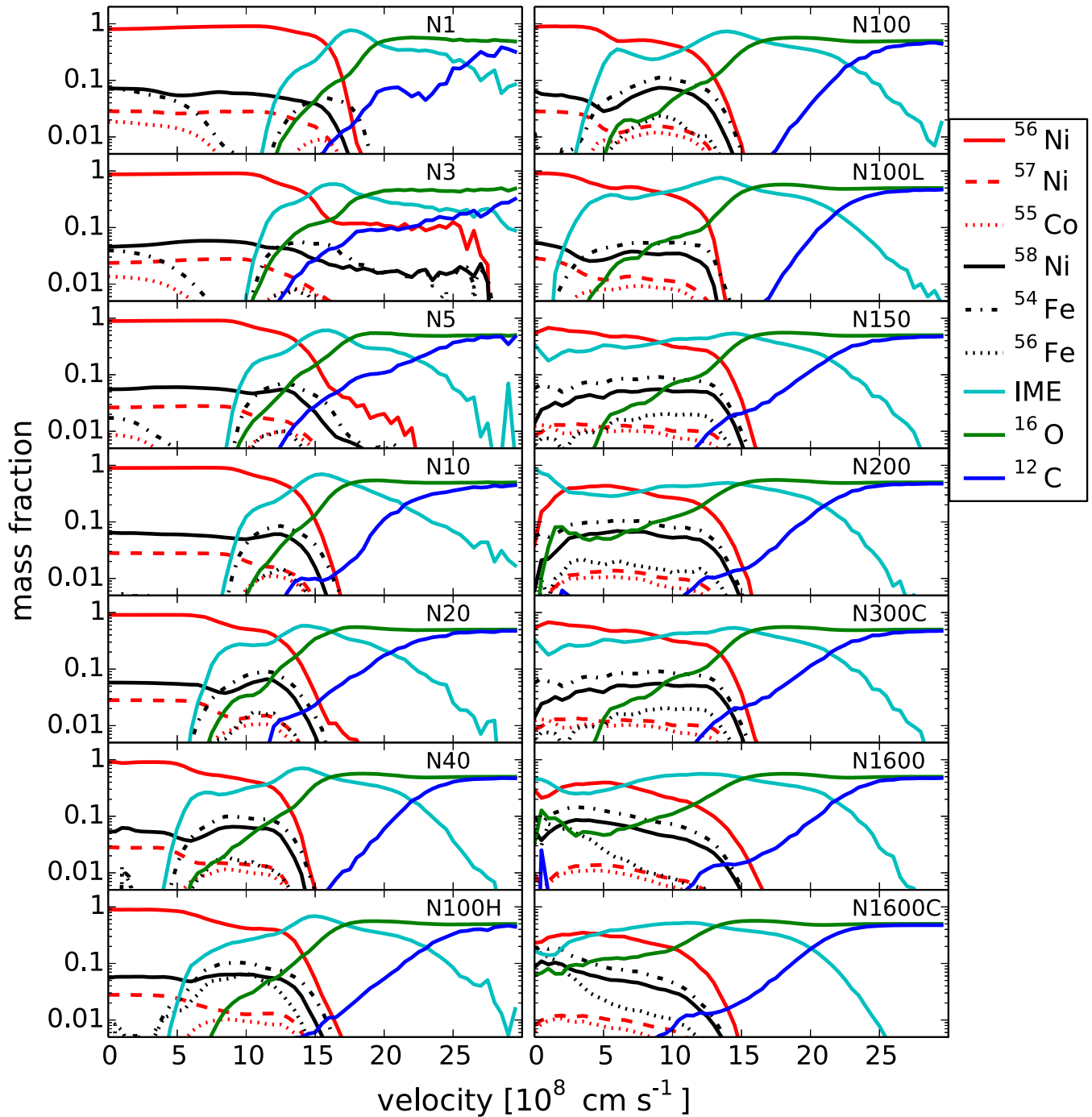


Figure 1. Corrected version of fig. 8 from Seitenzahl et al. (2013b). Shown are average mass fractions of some select isotopes and IME at time $t = 100$ s in velocity space.

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