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Correction to 'The impact of carbon and oxygen abundances on the metal-poor initial mass function'

by Piyush Sharda [1]★ Anish M. Amarsi [2] Kathryn Grasha [3,4] Mark R. Krumholz [3,4] David Yong [3,4] Gen Chiaki [5,6] Arpita Roy [7] and Thomas Nordlander [3,4]

[1]*Leiden Observatory, Leiden University, P.O. Box 9513, 2300 RA Leiden, The Netherlands*
[2]*Theoretical Astrophysics, Department of Physics and Astronomy, Uppsala University, SE-751 20 Uppsala, Sweden*
[3]*Research School of Astronomy and Astrophysics, Australian National University, Canberra, ACT 2611, Australia*
[4]*Australian Research Council Centre of Excellence for All Sky Astrophysics in 3 Dimensions (ASTRO 3D), Australia*
[5]*Center for Relativistic Astrophysics, School of Physics, Georgia Institute of Technology, Atlanta, GA 30332, USA*
[6]*Astronomical Institute, Graduate School of Science, Tohoku University, Aoba, Sendai 980-8578, Japan*
[7]*Cosmology Research Group, Scuola Normale Superiore, 56126 Pisa, Italy*

Key words: errata – stars: formation – stars: mass function – ISM: abundances – ISM: clouds – ISM: dust.

In the original paper (Sharda et al. 2023), we made an error when plotting the points and the empirical relation in Fig. 8: we used the absolute abundance ratio $\log_{10}(\mathrm{C/O})$ provided by Berg et al. (2019), instead of the Solar-normalised one ($[\mathrm{C/O}] = \log_{10}(\mathrm{C/O}) - \log_{10}(\mathrm{C/O})_{\odot}$).

Fig. 1 below presents the corrected version, where the points and the orange curve in the top panel are shifted upwards by $-\log_{10}(\mathrm{C/O})_{\odot} = +0.33$ dex (based on the `GASS10 CLOUDY` abundances and reference Solar abundance used by Nicholls et al. 2017). Propagating these changes forward, the main difference is for the low pressure and low velocity dispersion case (blue curve in the lower left panel of Fig. 1): the characteristic mass for $[\mathrm{O/H}] < 0$ moves closer to the $[\mathrm{C/O}] = 0$ case considered in Sharda & Krumholz (2022). Nevertheless, the non-Solar scaled model still has larger characteristic mass than the Solar-scaled model (0.2 dex larger, between $-1.7 < [\mathrm{O/H}] < -1.0$), and shows a transition to top-heavy IMF towards lower metallicity. As such, the conclusions of the original paper (including the results from stellar abundances in Section 4.1) remain unchanged.

★ E-mail: sharda@strw.leidenuniv.nl

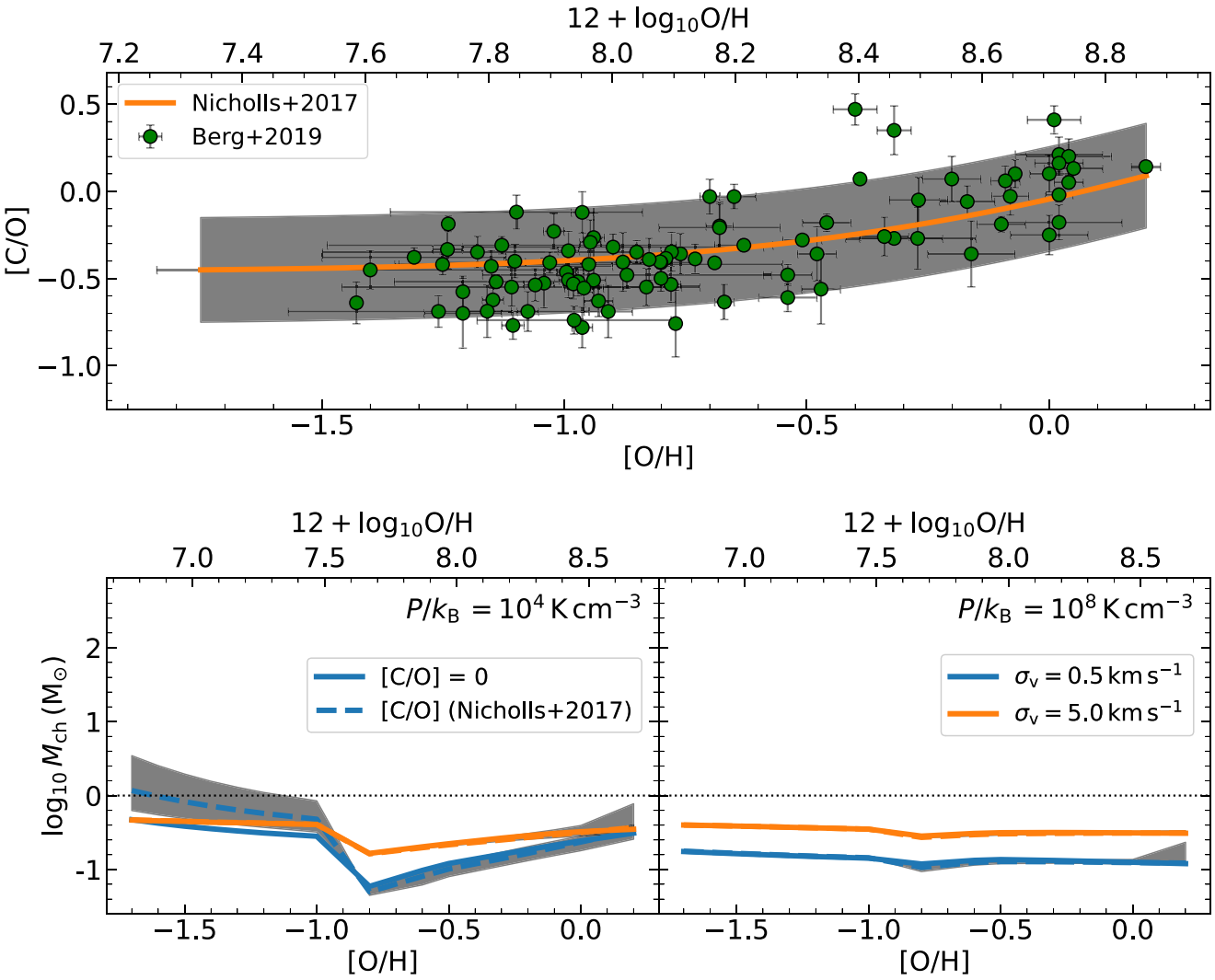

Figure 1. Corrected version of Sharda et al. (2023, figure 8).

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