

Impact of Overshoot on Proton Ingestion Events in AGB Stars

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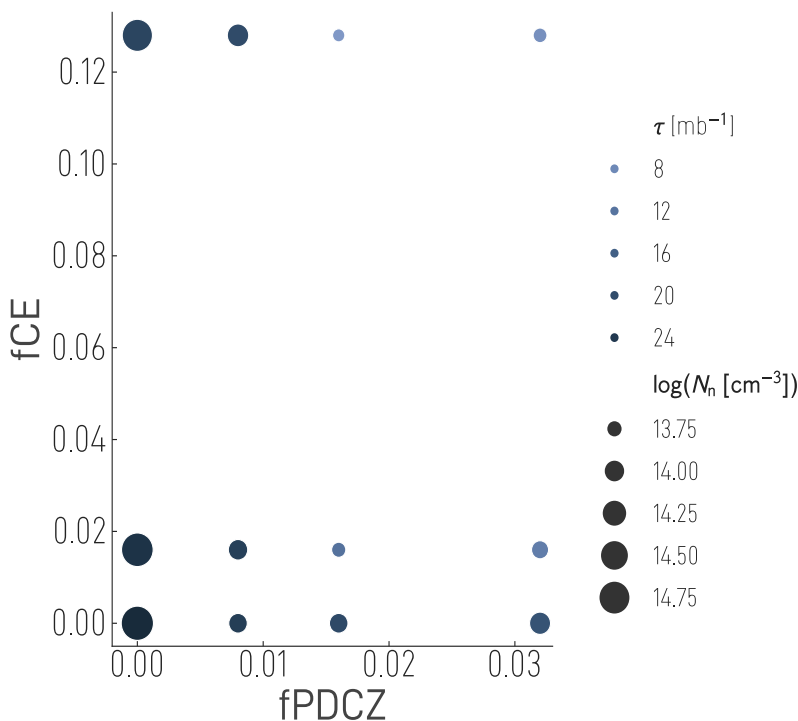


FIGURE 1. The impact of the convective overshoot parameters, $fPDCZ$ for overshoot from the PDCZ and fCE for overshoot from the convective envelope, on the maximum neutron density (marker size) and neutron exposure (marker hue).

Overshoot impacts both the neutron density and light element nucleosynthesis of PIEs.

Comparison to observations strongly favors smaller overshoot values.

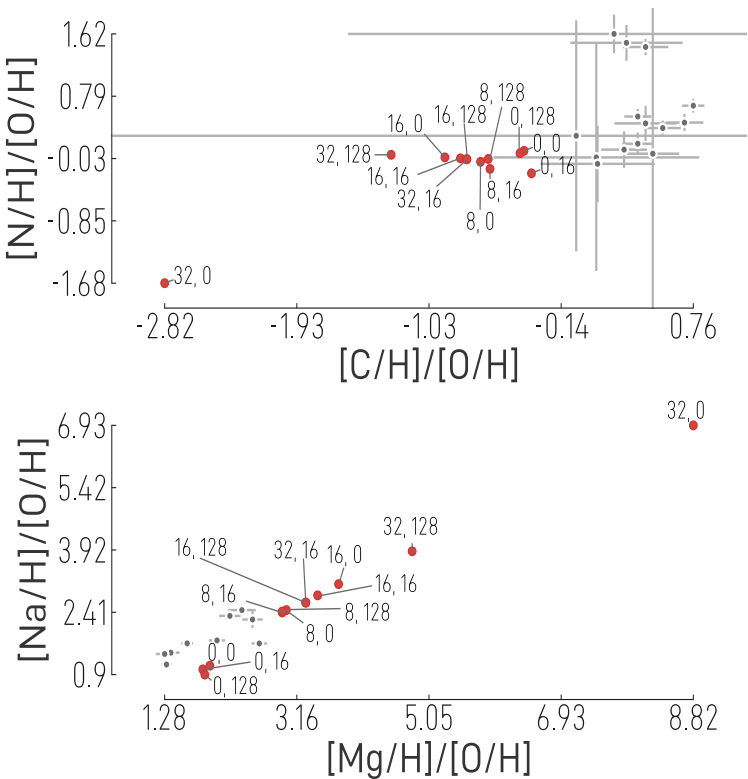


FIGURE 2. Final surface abundance ratios of models (red dots) and observed CEMP-r/s stars with observational errors (gray dots). The models are labelled as $fPDCZ$, fCE with the values multiplied by 1,000.

Observational Data: KARINKUZHIL ET AL. (2021), AOKI ET AL. (2007), IVANS ET AL. (2005), ROEDERER ET AL. (2014), AOKI ET AL. (2002), AOKI ET AL. (2006), HANSEN ET AL. (2015), JONSELL ET AL. (2006), ZHANG ET AL. (2011), COHEN ET AL. (2003), COHEN ET AL. (2013), PLACCO ET AL. (2013).