

## Introduction (of referee report)

“The results of the paper clearly demonstrate that the technique of simulating stellar clusters in cosmological hydrodynamical simulations by tagging stellar particles based on their ages does not reproduce key properties of observed GC systems in the Milky Way and M31. However, the authors do not state this conclusion anywhere”.

We feel that our conclusion would be too strongly phrased if we would generalise our results obtained using the Auriga simulations to cosmological simulations in general. Indeed, we do find that age-selected stellar particles do not reproduce key properties of observed GC systems in the Milky Way and M31. However, our results might reflect characteristics that are specific to Auriga, e.g. that the galaxy formation model overmixes metals at early times. Therefore we did add a final bulletpoint to our conclusion to clarify the above, but we limit the scope to the Auriga simulations.

## General comments about style

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- I replaced ‘Sec.’ by ‘Section’ to refer to sections in the present work. Moreover, I changed ‘Sec.’ to ‘section’ to refer to a section in one of the references.
- All acronyms are introduced the first time they appear in the text (MW, M31, GC, GCS, YMC, ISM, SN, AGB, DM, and Au). The subset thereof that appears in the abstract is also introduced the first time it appears.

## Major comments and concerns

- Item

## Additional major comments

- Item

## Comments for each section

- Item

## Minor comments

- The indicated typos have been corrected.
- ‘missing error bars and references for the virial radii’ → I moved the reference from the footnote to the main text.
- 4.1: ‘which model do the authors refer to?’ → added ‘star formation’.
- 4.1: ‘The top half of the left figure’ → ‘The top panel of Figure 3’.