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Keith T. Smith,[1]★ A. N. Other,[2] Third Author[2,3] and Fourth Author[3]
[1] *Royal Astronomical Society, Burlington House, Piccadilly, London W1J 0BQ, UK*
[2] *Department, Institution, Street Address, City Postal Code, Country*
[3] *Another Department, Different Institution, Street Address, City Postal Code, Country*

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ABSTRACT
This is a simple template for authors to write new MNRAS papers. The abstract should briefly describe the aims, methods, and main results of the paper. It should be a single paragraph not more than 250 words (200 words for Letters). No references should appear in the abstract.

Key words: keyword1 – keyword2 – keyword3

1 INTRODUCTION

This is a simple template for authors to write new MNRAS papers. See `mnras_sample.tex` for a more complex example, and `mnras_guide.tex` for a full user guide.

All papers should start with an Introduction section, which sets the work in context, cites relevant earlier studies in the field by Others (2013), and describes the problem the authors aim to solve (e.g. Author 2012).

2 ILLUSTRIS SIMULATION

Illustris-1, also known simply as Illustris, is a high resolved cosmological simulation which reproduces large-scale statistical features of the Universe, such as the galaxy population of massive clusters, as well as small-scale properties such as the morphology of galaxies and detailed values for their stellar and gas content. This was achieved by following the evolution of 1820^3 DM particles with mass resolution $m_{\rm DM} = 6.26 \cdot 10^6 {\rm M}_\odot$ together with 1820^3 baryonic particles with mass resolution $\overline{\rm m_b} = 1.26 \cdot 10^6 {\rm M}_\odot$ in a periodic box of 106.5Mpc, which is consistent with a standard ΛCDM cosmology with $\Omega_\Lambda = 0.7274$, $\Omega_{\rm m} = 0.2726$, $\Omega_{\rm b} = 0.0456$, $\sigma_{\rm s} = 0.0.809$, $\rm n_s = 0.963$ & $\rm H_0 = 70.4 kms^{-1} Mpc^{-1}$. Illustris has a constant spatial resolution of 1.4kpc for DM particles in comoving units, and for baryonic particles it has the same spatial resolution for DM for z ≥ 1, which is later modified to 0.7kpc in physical units for the rest of the simulation. The evolution for the particles

Table 1. This is an example table. Captions appear above each table. Remember to define the quantities, symbols and units used.

A	B	C	D
1	2	3	4
2	4	6	8
3	5	7	9

2.1 Maths

Simple mathematics can be inserted into the flow of the text e.g. $2 \times 3 = 6$ or $v = 220\,{\rm km\,s^{-1}}$, but more complicated expressions should be entered as a numbered equation:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}. \quad (1)$$

Refer back to them as e.g. equation (1).

2.2 Figures and tables

Figures and tables should be placed at logical positions in the text. Don't worry about the exact layout, which will be handled by the publishers.

Figures are referred to as e.g. Fig. 1, and tables as e.g. Table 1.

3 CONCLUSIONS

The last numbered section should briefly summarise what has been done, and describe the final conclusions which the authors draw from their work.

★ E-mail: mn@ras.org.uk (KTS)

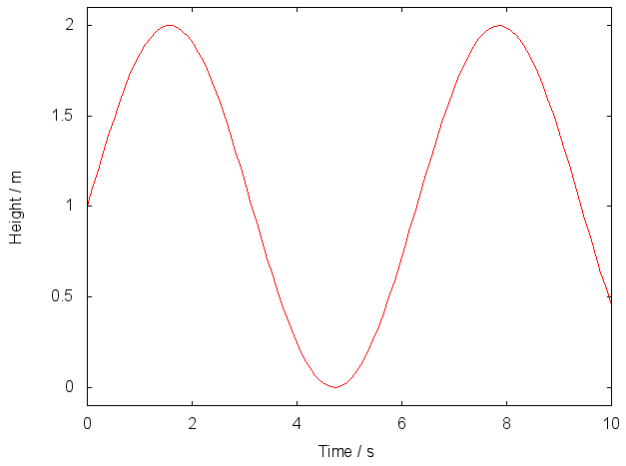

Figure 1. This is an example figure. Captions appear below each figure. Give enough detail for the reader to understand what they're looking at, but leave detailed discussion to the main body of the text.

ACKNOWLEDGEMENTS

The Acknowledgements section is not numbered. Here you can thank helpful colleagues, acknowledge funding agencies, telescopes and facilities used etc. Try to keep it short.

REFERENCES

Author A. N., 2013, Journal of Improbable Astronomy, 1, 1
Others S., 2012, Journal of Interesting Stuff, 17, 198

APPENDIX A: SOME EXTRA MATERIAL

If you want to present additional material which would interrupt the flow of the main paper, it can be placed in an Appendix which appears after the list of references.

This paper has been typeset from a TEX/LATEX file prepared by the author.