

The effect of tidal shocks onto the internal structure of globular clusters

Timo L. R. Halbesma¹[★], Simon D. M. White¹

¹ *Max-Planck-Institut für Astrophysik, Karl-Schwarzschild-Str. 1, 85741 Garching, Germany*

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ABSTRACT

Key words: methods: numerical – galaxies: formation – galaxies: star clusters: general.

1 INTRODUCTION

Webb et al. (2018) study the effect of a tidal

A similar study was conducted three decades ago, although the scope was tidal disruption of galaxies rather than of globular clusters. (Aguilar & White 1985, 1986)

How clusters are affected by tidal shocks: (Spitzer 1958) (Spitzer 1987) (Gieles et al. 2006) (Kruijssen et al. 2011) (Gieles & Renaud 2016)

“By defining a tidal heating parameter (Gnedin 2003), cluster’s mass loss history can be estimated for any known tidal history.”

2 SIMULATIONS

NBODY6 (Aarseth 2003, 2010) NBODY6TT (Renaud et al. 2011; Renaud 2015; Renaud & Gieles 2015)

“Mode A: the tidal information is extracted from a galaxy or cosmology simulation, in the form of tidal tensors, along one orbit. This method is described in (Renaud et al. 2011)”

“Mode B: the user defines a numerical function which takes position and time as arguments, and returns the galactic potential. This method is described in (Renaud & Gieles 2015)”

- nbody6tt: Tidal tensors in N-body simulations (Renaud 2015)

Initial cluster density: King (1966) model with $W_0 = \{5, 7\}$ or (Plummer 1911) profile.

ICs with MCLUSTER (Kuepper et al. 2011; Küpper et al. 2011)

3 RESULTS

4 DISCUSSION

5 CONCLUSIONS

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

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The research was conducted using the Python (van Rossum & de Boer 1991) programming language with the IPython (Perez & Granger 2007) environment. We used the NumPy (van der Walt et al. 2011), SciPy (Jones et al. 2001), and Astropy (Astropy Collaboration et al. 2013) packages. Plots were generated using Matplotlib (Hunter 2007).

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★ E-mail: Halbesma@MPA-Garching.MPG.DE

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