

Interactive comment on “Analysis of Wave Propagation in a Discrete Chain of Bilinear Oscillators” by M. S. Kuznetsova et al.

Anonymous Referee #2

Received and published: 17 February 2017

The authors have presented interesting results of a study on wave propagation in a discrete chain of bilinear oscillators for the case of rather large value of the parameter characterizing the difference between tension and compression moduli. The paper is worth to be published after taking into account the items that follow.

1. Please emphasize the differences with the paper [Gavrilov S.N. and Herman G.C., 2012].
2. What is the goal of this research?
3. It is necessary to note that in the case “tension – compression” the analytical solution exists for the stiffness ratio $a \ll 1$, when the order of the Eq. (11) can be reduced and a solution with shock front exists, see [Naugolnykh, K., & Ostrovsky, L. (1998). Nonlinear wave processes in acoustics. Cambridge University Press]. In this connection, please

Printer-friendly version

Discussion paper



refine the peculiarity of the presented study.

4. Please estimate the product of the characteristic wave number and the length of the spring.

5. What methods of numerical simulations were used?

Typographical mistakes and other minor corrections

1. What is the correct notation for masses m or M ?

2. The same for ω and Ω .

3. Is the frequency of the applied force ω in the Table dimensionless?

4. One Heaviside function is used in the Eq. (8) instead of difference of two Heaviside functions.

Please also note the supplement to this comment:

<http://www.nonlin-processes-geophys-discuss.net/npg-2016-80/npg-2016-80-RC2-supplement.pdf>

Interactive comment on Nonlin. Processes Geophys. Discuss., doi:10.5194/npg-2016-80, 2017.

Printer-friendly version

Discussion paper

