

Interactive comment on “Generation and propagation of stick-slip waves over a fault with rate-independent friction” by Iuliia Karachevtseva et al.

Anonymous Referee #2

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The present manuscript reports results of numerical study of a fault dynamics under elastic oscillations of the rocks surrounding the fault under constant friction factor with application of simple 1D spring-block models.

I believe that this work can be made acceptable for publication in NPG, but some major revisions should be made, that will drastically improve the readability of the work and its overall impact.

1) The paper does a poor job of placing the work in a context with previous work that relates fault slip behavior to elastic oscillations of the rock surrounding the fault. Addressing this comment will make the paper more readable to a wide earth science audience and place it in better context to other work that has been done on a similar

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topic.

2) An application of simple models like the Burridge-Knopoff model and 1D model of an infinite elastic rod driven by elastic shear spring for the declared purpose should be substantiated in details.

3) The constant friction factor used in the models instead of generally accepted rate-and-state friction law has to be grounded and supported by lab results and field observations.

4) A discussion section of the manuscript is required for an analysis and comparison of the numerical results and drawn conclusions with published data obtained under laboratory and natural conditions.

Moreover, I realized that the English writing is not good enough, some parts of the text are difficult for understanding, there are some syntax and spelling errors, and I strongly recommend reviewing the text by a native English speaker.

Interactive comment on Nonlin. Processes Geophys. Discuss., doi:10.5194/npg-2016-82, 2017.

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