



The influence of the spring-block model parameters on its motion mode

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It's known that the spring-block model with rate-and-state friction law can be used to reproduce observed seismic activity. But there is a question about the parameters used in such a model. This issue was investigated in the presented study by numerical simulations and use of the two-scale rate-and-state friction law. The model parameters and perturbation type were varied and a response of the model to these variations was obtained. The relations between the initial parameters and the system response were established. Thus, the conditions of transition from one motion mode to another one, the modeled seismic event maximum magnitude dependence on the initial parameters were found.