

## Foreshock Distribution Obtained by the Synthetic Seismicity Based on a Statistical Aftershock Model

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It is well known that the space-time distribution of immediate foreshocks obtained by superposing many foreshock-mainshock pairs shows an accelerative increase before a mainshock. Two different explanations are possible. The first is that the accelerative increase of instability or stress in the region causes the increase of foreshocks, and the second is that a foreshock is the cause of a stress change in the region and it triggers a mainshock. To show the second explanation more explicitly, we analyzed the synthetic seismicity data produced by a statistical aftershock model. Note that the model does not assume an increasing time distribution before an event. The results show that the synthetic data also exhibits the accelerative increase of time distribution of superposed foreshocks.