

## **BRANCHING PROCESS ON ALGORITHM OF MAINSHOCKS IDENTIFICATION BASED ON GARDNER-KNOPOFF METHOD**

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### SUMMARY

Earthquake clusters are usually defined by their proximity in time and space. By using declustering we isolate the class of mainshocks, i.e. earthquakes that are independent of all preceding earthquakes. This corresponds to removing the dependent earthquakes that form seismicity clusters. In this paper we propose an algorithm of declustering using Gardner-Knopoff method. We apply the algorithm on earthquakes data in Java Island. We also derive some properties of the algorithm using branching process approach.

*Keywords and phrases:* Branching process; earthquake; mainshock; and Gardner-Knopoff method.

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