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Images of the 2004 Sumatra Earthquake through JISNET data: Preliminary report

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The devastative earthquake occurred at the off Sumatra Island, Indonesia, on December 26, 2004. This earthquake caused large tsunamis and various countries (e.g., Indonesia, India and Thai) have damaged by them. We succeeded to record the waveforms of the main-shock and some aftershocks by JISNET (Japan-Indonesia Seismic NETwork) broadband stations. An envelope of the main-shock from the high-pass filtered waveform with a corner frequency of 1 Hz indicates that there exists some wave-packets arrived to the station until about 400 seconds from the Ponset time. The source process of the main-shock, which was obtained using longperiod body wave by Yamanaka (2005), shows three large-slip events occurred during the rupture process continuing 400 seconds. The high-frequency wavepackets on our result is consistent to the source process analysis, and it suggests the radiation of high-frequency seismic wave possibly generated at the large-slip portion of the huge fault.

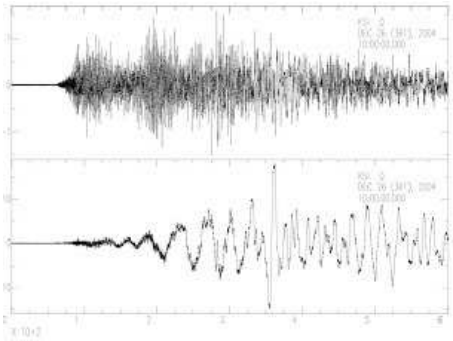

Fig. 1. Comparison between non-filtered waveform (lower) and high-passed filtered (0.5 Hz) waveform (upper) of the 2004 Sumatra main shock.

References

[1] Yamanaka,Y,http://www.eri.u-tokyo.ac.jp/sanchu/Seismo_Note/2004/EIC154.html (2005).