



## **The study of recent seismicity in the aftershock area of Neftegorsk earthquake using waveform cross correlation**

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Unusually long duration of seismic activity (more than 20 years) was observed in the aftershock area of the 1995 Neftegorsk, Sakhalin, Russia catastrophic earthquake ( $M_s=7.6$ ). To study the phenomena, we have processed seismic data from 130 events occurred within that area as measured between 2006 and 2015. In order to improve the accuracy of relative location and magnitude estimation of these events we have applied new techniques based on waveform cross correlation. We use 7 three-component (3-C) seismic stations which detected most of these events. Three-component waveform templates were prepared for these stations from those events which had signals with  $SNR>5$  at vertical channels. The events with 3 and more templates are used as master-events for waveform cross correlation. Overall, the re-estimated location and magnitudes demonstrate higher precisions and are used for the statistical analysis and numerical modelling of seismo-tectonic regime within the studied zone.