

Beyond the kHz and seismology - 10 kHz continuous seismic observation

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Okubo and Saiga (2012; JPGU) proposed the high frequency continuous observational seismology to resolve detailed seismic structure and its time variation. In past, high frequency observation had been done by Iio (1992) at the aftershock area of western Nagano earthquake.

Using the high frequency phenomena (near field blasting), Saiga and Okubo (2012; SSJ) reported 10 times accurate velocity structures, and Okubo *et al.* (2012; SSJ) estimated time variations (~4%) of the seismic velocity caused by water pressure changes. These studies are supported by mass data by high frequency sampling. For example, if we want to estimate 10 times accurate seismic velocity, more than 100 times data will be required in time domain. Additionally, in order to guarantee waveform correlations with 10 times faster sampling, 10 times dense observation networks will be also required.

In the 90s seismology increased observation data by real time and multi channels. The second generation data big bang will begin inflating in seismology. We will introduce the idea of the high frequency observational seismology, and will report some scientific results, worries of data management, and shining futures.

Keywords: High frequency observational seismology, 10kHz continuous observation, storage management