

This is a brief note on the digitization of strong motion accelerograms from the 1964 Niigata, Japan, earthquake that were recorded by the SMAC-A and the DC acceleographs that were installed on the basement floor and the roof, respectively, in the apartment house of 4 story-building at Kawagishi-cho, Niigata city. The acceleographs were installed in 1958 by Building Research Institute (BRI) and they had been maintained by the Niigata prefecture government (Nakagawa and Izumi, 1964). See attached copy of station table.

The Strong Motion Accelerometer Committee (SMAC) in Japan was established in 1951 and Earthquake Research Institute (ERI), University of Tokyo took a role of a secretary office that manage the committee meeting, preparing the observation station table, preserving the observed records and so on. A long-term preservation of the original strong motion records acquired by some member organizations (BRI, Japan Railway, Nippon Telegraph and Telephone Public Corporation, and others) together with those from ERI sites was one of an important role of the secretary (later it was succeed by the Strong Earthquake Motion Observation Center of ERI) until 1972. This is the reason why the BRI original records have been kept in ERI.

The original scratch paper of the SMAC-A (basement floor) recording was colored by milky-white, therefore, it is very difficult to reproduce in a photographic image. The DC recording was on smoked paper. The digitization by Kudo et al. (2000) was conducted dividing the SMAC record into three parts, because of the restriction of digitization device (SMAC Reader, Eto Denki). The first part from the beginning of recorded motion for approximately 20 seconds was digitized every 0.02 cm along time axes, that is, the sampling rate of roughly 0.02 seconds. The second part was approximately for 30 seconds digitized every 0.05 cm and the third one of 60 seconds was 0.1 cm sampling. The DC record was digitized dividing into two parts (45~50 sec) with every 0.02 cm. These unequal sampling data were resampled for every 0.02 sec by the spline interpolation. Finally a cosine tapered band-pass filter (0.1-10 Hz) was applied in the frequency domain and the data were inverted to time domain using the FFT.

The other digitization of shorter time series is summarized by Yoshizawa (1991), that is in preparation for public release from <http://smsd.eri.u-tokyo.ac.jp/smad/smac/>.