

Photogrammetric measurement of the surface displacement by the 2008 Iwate-Miyagi nairiku earthquake

Izumi Kamiya[1]; Mamoru Koarai[1]; Tatsuo Sekiguchi[1]; Junko Iwahashi[1]; Takayuki Nakano[1]

[1] GSI

Some earthquake-fault-like structure was reported caused by the 2008 **Iwate-Miyagi nairiku earthquake**. AIST reported an earthquake-fault-like structure with very large displacement in the north of the Aratozawa dam. Two kinds of interpretation were suggested; one was earthquake-fault, and the other was landslide. We measured horizontal displacement around the structure by photogrammetry using aerial photographs before and after the earthquake in order to settle the argument.

We found two rigid blocks on both side of the structure. Comparing with the nearest GPS-based control station (permanent GPS receiving station), we judged that relative displacement between the rigid blocks was caused by the movement of the earthquake fault. Displacements are smoothly varying between the structure and the rigid blocks. Therefore, we concluded that **the earthquake-fault-like structure in the north of the Aratozawa dam is based on the movement of the earthquake fault**.

Above measurement covered only around the structure in the north of the Aratozawa dam. The measurement was also by not usual photogrammetric method: scanned by non-survey-purpose scanner, and without ground control points. We are now measuring the displacement covering more wide area by usual photogrammetric method. The result will be presented at the JPGU meeting.

