

## A high Density Questionnaire Seismic Intensity Survey in Oshu City of Iwate Prefecture, for the aftershock occurred at A

YAMAMOTO, Hidekazu<sup>1\*</sup>, SANO, Tsuyoshi<sup>1</sup>, Rohei Saito<sup>1</sup>

<sup>1</sup>Faculty of Engineering, Iwate University

A vibration characteristics for strong motions of earthquakes depends on not only the source but also subsurface geological structures. To clarify the vibration characteristics at Oshu of Iwate Prefecture, the survey of seismic intensity was done using questionnaires for the earthquake occurred at April 7, 2011. This earthquake was the aftershock of the 2011 off the Pacific coast of Tohoku Earthquake. JMA reported that the seismic intensities at the Maesawa Town of Oshu City were 6 weak for the main shock and same for the aftershock.

The questionnaire revised by Ohta et al.(1998) was used for calculating seismic intensity. 6,727 questionnaires were distributed for parents of students of 31 elementary schools of Oshu City, 347 were distributed for those of Maesawa junior high school, and 200 were distributed for residents in the central Maesawa Town of Oshu City. The seismic intensities estimated from questionnaires were averaged for 1 km square meshes to clarify the distribution of seismic intensity for Oshu City. To avoid differences among individuals for questionnaire survey, the effective mesh where the number of the questionnaire was more than three was used for analysis. The number of the effective mesh was 1079. The seismic intensities were ranging from 4.0 to 6.3, and the average was 4.9. As a result, the seismic intensity at the south area of Oshu City was large, namely, 6 weak, and the one at east area was also large. On the other hand, the one at the north area to the west area was small. The results shows that the seismic intensity was large at the area where houses were damaged.

Keywords: the 2011 off the Pacific coast of Tohoku Earthquake, aftershock at April 7 in 2011, high density Questionnaire Seismic Intensity Survey, Instrument seismic intensity, earthquake damage, Oshu City, Iwate Prefecture