

Dence questionnaire survey in Sakaiminato City due to the Tottoriken Seibu earthquake (4) -Seismic intensity and bedrock structure-

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In this study, to understand a characteristic of the 2000 Tottoriken-seibu Earthquake strong motion, dense questionnaire survey was carried out in Sakaiminato City. In spite of Sakaiminato City is located about 30km from the epicenter of this earthquake, the intensity value was same in this area and the nearby area of the epicenter, Hino Town. We distributed questionnaire sheets to all the households in Sakaiminato City and received 2796 answers (received rate was about 20%). The questionnaire sheets consist of two parts. The first part consists of respondent's family members, type of structure, damage of house and so on. The second part consists of the ready-made questionnaire to determine seismic intensity from non-instrumentally (Ohta et. al., 1998). The data of questionnaire were analyzed using GIS.

The distribution of questionnaire intensity (Fig.1) is as follows. The high intensity area (intensity value more than 5.5) is shown so as a belt-like zone in northern area. The high intensity area is shown partially in the southern area. The low intensity area (intensity value less than 5.25) is distributed in the eastern area, and the high intensity area (intensity value more than 5.25) is distributed so as a stripe-like zone in the western area. According to comparison between intensity distribution and the results (Yoshikawa et.al., 2002) of estimation of bedrock structure in this area, it is considered that the intensity was affected by configuration of the bedrock (bedrock layer of $V_s=3\text{km/s}$).

Ohta Yutaka, et. al., Revision of Algorithm for Seismic Intensity Determination by Questionnaire Survey - In High Intensity Range - ,Journal of Japan Society for Natural disaster Science, 16-4, pp307-323,1998.

Hirotoomo Yoshikawa et. al., Estimation of the Bedrock Structure at Ymigahama Peninsula, Tottori by Using observation of Aftershocks, Microtremors, and Gravity, Zisin, 2002 (in press).

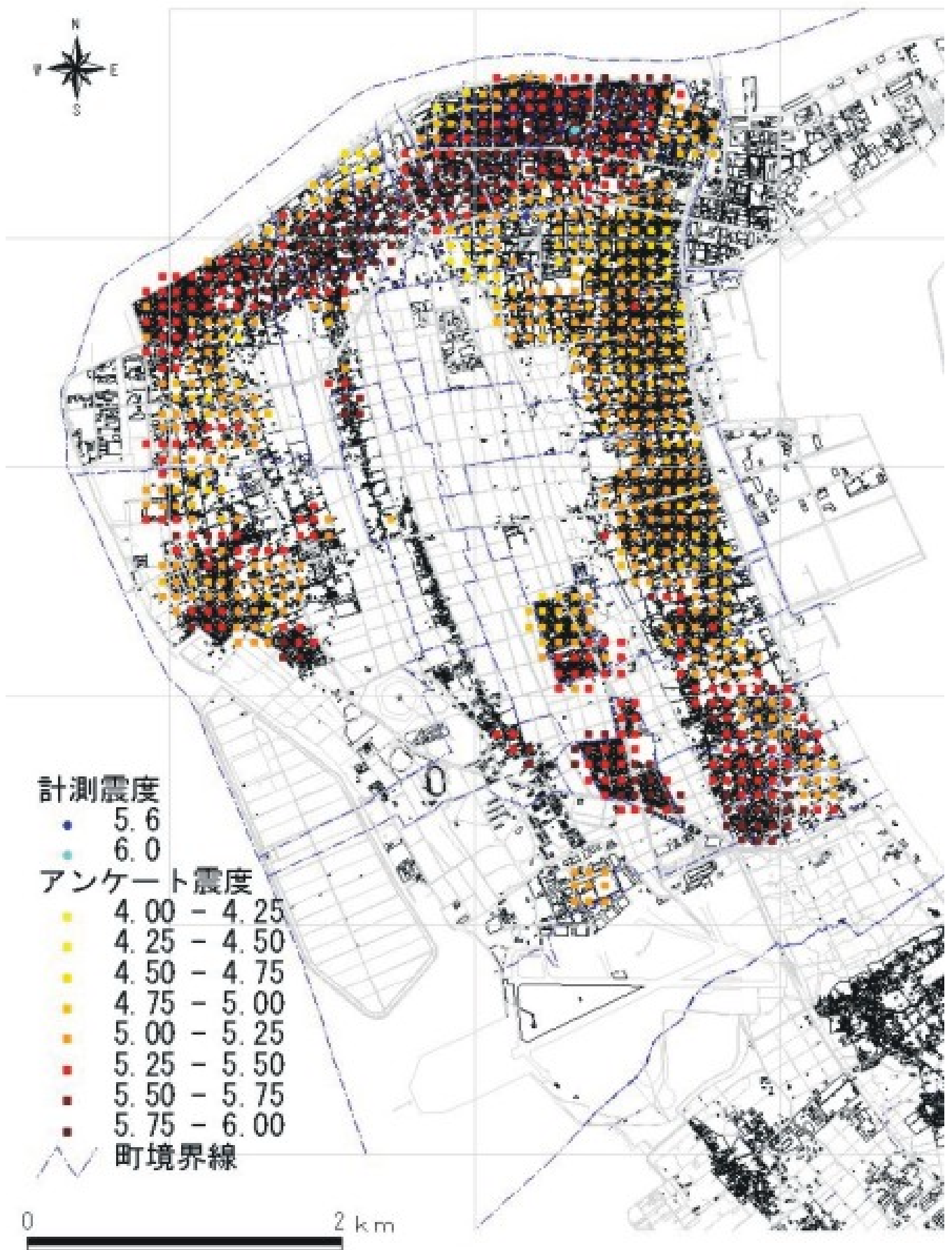


Fig.1 アンケート震度の分布図