Estimation of geological structure in Matsuyama Plain using H/V sprectrum ratio of microtremors

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The Matsuyama Plain is formed of the Quatenary alluvial fan sediment on the Izumi Group as the base rock. The Iyo fault lies along the southern boundary of the plain and is thought as the most hazardous earthquake-inducing active fault to the Matsuyama Area. The geological structure of the plain is not well known. Author tried to estimate the structure by the microtremor measurements which were carried out along two lines of the north-south direction across the plain. The Fourier spectrum ratios of the horizontal component to the vertical of the microtremor (H/V spectrum) were calculated and the predominant frequencies or periods were recognized. The distribution of the predominant periods on the line was harmonized to a geologically estimated configuration of the sedimentary basin.