

Response of the RC building before and after the building reinforcement observed by the IT strong motion seismometer system

Kiyoshi Takano[1]; Yasuhisa Ikeda[2]

[1] ERI, Univ. of Tokyo; [2] Complexity Science and Engineering, Frontier Sciences, Tokyo Univ

In order to reduce the seismic disaster, it seems to be the usefulness to investigate the seismic vibration of our familiar buildings such as housing, companies, schools, etc. in small earthquake, examine the weak point and improve the earthquake resistance of these building effectively. For this purpose, we devised the IT strong motion seismometer as a new type self install strong motion seismometer. .

We developed the IT strong motion seismometer system that observes the seismic vibration of building in small earthquake by installing many strong motion sensors (ITK sensor) in the building (Takano et al 2005). By using this system we are observing at each building of No.1 (seismically isolated structure), No.2 (reinforced concrete (RC) structure) and No.3 (steel frame structure) of the Earthquake Research Institute from May, 2006. .

Because the No.2 building was reinforced by the steel brace method afterwards for earthquake resistance, we investigate the change of the earthquake response of the RC building before and after the building reinforcement observed by the IT strong motion seismometer system (Ikeda et al 2007).

In this presentation, we will show the improved result of the presentation of last autumn about the change of ratio k/m of stiffness k and equivalent mass m . And, the change of eigenperiod of the building was also investigated and compared with the change of k/m by the analysis of the transfer function of upper floor from the basement.