



DISTRIBUTION OF BUILDING DAMAGE IN THE SOUTHERNEASTERN PART OF BEICHUAN COUNTY BY THE 2008 SICHUAN, CHINA, EARTHQUAKE BASED ON VISUAL DETECTION OF SATELLITE OPTICAL IMAGES

Hiroyuki MIURA¹ and Saburoh MIDORIKAWA²

¹ Member of JAEE, Assistant Professor, Department of Built Environment, Tokyo Institute of Technology, Yokohama, Japan, hmiura@enveng.titech.ac.jp

²¹ Member of JAEE, Professor, Department of Built Environment, Tokyo Institute of Technology, Yokohama, Japan, smidorik@enveng.titech.ac.jp

ABSTRACT: In order to evaluate distribution of building damage in the southeastern part of Beichuan county, severely damaged by the 2008 Sichuan, China, earthquake, visual damage detection technique is applied to pre- and post-event satellite optical images. The locations of about 5,000 buildings are identified from the pre-event image. The damage of each building is classified into three categories; complete collapse, severe damage, and less than moderate damage by comparing the pre- and post-event images. The damage ratio computed from the result of the visual detection in Qushan town, the capital of Beichuan county, is more than 80%. The distribution of the building damage shows that the damage ratios on the hanging wall of the earthquake fault is higher than those on the foot wall.

Key Words: The 2008 Sichuan, China, Earthquake, Beichuan County, Building Damage, Satellite Optical Image