



DAMAGE DETECTION OF WOODEN HOUSES AFTER THE NIIGATA-KEN CHUETSU-OKI EARTHQUAKE USING DIGITAL AERIAL IMAGES

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ABSTRACT: Remote sensing technology is effective to grasp the damage distributions from various natural disasters, such as earthquakes, tsunamis and volcanic eruptions. After the 2007 Niigata-ken Chuetsu-oki earthquake, aerial images were taken in the stricken area by several air survey companies. Airborne remote sensing is more suitable to collect detailed damage distribution because it provides higher resolution images than satellite remote sensing does. The pre- and post-event images taken by a digital aerial camera are employed in this study to detect building damages. Since visual damage inspection takes time to perform for the whole areas that are subjected to severe ground motion, an object-based technique is proposed to extract debris from buildings. The proposed method is expected to contribute for the damage assessment at an early stage after the occurrence of an earthquake.

Key Words: Remote Sensing, Digital Aerial Image, The 2007 Niigata-ken Chuetsu-oki Earthquake, Building Damage, Object-based Classification