

臺灣校舍耐震補強暨0206花蓮地震之校舍表現

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摘要

2018年2月6日臺灣時間23點50分發生芮氏規模 $M_L 6.0$ 的地震，震央位於花蓮縣政府北偏東方18.3公里(花蓮縣立霧溪東北方出海口)，震源深度僅10公里，全臺明顯感受到地震的搖晃，其中又以花蓮縣花蓮市及宜蘭縣南澳鄉震度最大為7級。為了解本次地震花蓮校舍耐震能力之表現，財團法人國家實驗研究院國家地震工程研究中心蒐集與彙整多方資訊，統計花蓮縣校舍震損情形，並進一步探討補強之有效性。經統計花蓮縣校舍震後表現，計有29校57棟校舍出現震損，占其所在鄉鎮公立國中小總校舍棟數的8.6%，表示該區域大多數校舍並無災情發生，且在57棟震損校舍中，大多數為櫥櫃教具損壞或傾倒、輕鋼架天花板損毀等非結構性損傷，對於建築物耐震能力並無損傷，待修復完成後即可立即恢復其使用功能。

本文除統計花蓮縣校舍震後表現外，亦針對損壞校舍探討其原因，期望提供未來執行耐震補強工程參考，強化耐震補強之有效性。

關鍵字：0206 花蓮地震、校舍、耐震補強。

The School Building Reconnaissance Report in 0206 Hualien Earthquake

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Abstract

A major earthquake with magnitude $M_L 6.0$ occurred in Hualien City at 11:50PM on Feb. 6, 2018. According to the report from the Central Weather Bureau (CWB), the epicenter of the mainshock was located about 18.3 km northeast of Hualien County Government building. The focal depth was 10 km. Residents all over Taiwan felt the earthquake. The largest seismic intensity was up to 400gal above at Hualien City and Nan-ao Township. In order to understand the seismic performance of Hualien school buildings subjected to the 0206 Hualien Earthquake, National Center for Research on Earthquake Engineering collected the data of the school buildings after the shaking. Based on the data, 57 buildings in 29 schools were damaged, accounting for 8.6 percent of all school buildings. In other words, many school buildings were safe in the 0206 Hualien Earthquake. The major types of building damage were nonstructural including overturning of cabinets due to lack of quakeproof anchorages, and excessive deformation or falling of light suspension ceilings.

In addition, the paper also discusses the cases of the damaged buildings with the objective of upgrading the retrofitting construction.

Key Words : 0206 Hualien earthquake, school building, strategy of seismic upgrading.

一、前言

臺灣位於歐亞大陸板塊和菲律賓海板塊

交界處，屬於太平洋火環的一部分，依據經濟部中央地質調查所公告，臺灣總計33條活動斷層，其中20條屬第一類活動斷層；13條屬第二類活動斷層，都具有錯動之可能，因此臺灣