

0206花蓮地震橋梁震損調查與分析

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摘要

2018年2月6日花蓮地震後，國家地震工程研究中心(以下簡稱國震中心)隨即啟動勘災作業，其中因震損而須緊急封閉交通之橋梁計有鄰近嶺頂斷層(第二類活動斷層)之花蓮大橋，以及鄰近米崙斷層(第一類活動斷層)之七星潭大橋、花蓮市三號橋及尚志橋等四座橋梁，橋梁災害調查小組以高空影像擷取系統及數位拍攝方式執行橋梁損傷完整勘查紀錄。災害調查工作資料收集，除可供為橋梁修復建議方案擬定或現地安全試驗規劃時之參考依據，更希冀對於橋梁震害因應對策及橋梁地震防救災工作有所助益。

關鍵字：0206 花蓮地震、橋梁、活動斷層。

Reconnaissance Observation and Analysis on Bridge Damage Caused by the 0206 Hualien Earthquake

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Abstract

The reconnaissance team of bridge engineering division investigated four bridges in Hualien city immediately after the 6.26-magnitude earthquake struck just off the east coast of Taiwan on February 6, 2018. The aerial image capture device and digital photography system were employed to perform the post-earthquake survey on-site. The Hualien Bridge, located at the Provincial Highway No. 11 between the Jian and the Shoufeng Townships, was damaged due to ground movements induced by the rupture of the Lingding Fault that was believed to have run across the bridge. The other bridges, including the Qixingtian Bridge, the Hualien City NO.3 Bridge, and the Shangzhi Bridge, also suffered different levels of damage resulting from the surface rupture of Milun Fault that passed through or was closed to these bridges. The reconnaissance results and data obtained by this survey may serve as useful references for seismic evaluation and retrofit design and disaster-prevention of bridges in the future.

Key Words : 0206 Hualien earthquake, bridge, active fault.

一、前言

2018年2月6日深夜，花蓮近海發生芮氏規模6.26的地震，雖然本次地震規模和近幾年發生在台灣的地震相比並非很大，但由於震央接近花蓮市區，且花蓮市區內剛好有兩條活動斷層穿越，包括屬於第一類活動斷層的米崙斷層和第二類活動斷層的嶺頂斷層，

所以本次地震引致之地表破裂明顯，也造成花蓮地區結構物(包括數座橋梁)不同程度的損傷。地震過後由於橋梁的震損，總計有四座橋梁須暫時封閉交通，進行緊急的檢測與維修補強，這四座橋分別為花蓮大橋、七星潭大橋、花蓮市三號橋和尚志橋。本文主要以探討花蓮大橋及七星潭大橋之震損原因為主，另也勘查花蓮市三號橋與尚志橋，相關調查結果說明如後。