

# 防災避難圈空間系統之震災複合性衝擊分析方法研究

## Comprehensive Seismic Impact Analysis for Disaster Evacuation in Urban Spaces

主管單位：科技部

柯孝勳<sup>1</sup>      吳秉儒<sup>1</sup>      許智豪<sup>1</sup>      林佳瑩<sup>1</sup>  
Ke, Siao-Syun<sup>1</sup>      Wu, Bing-Ru<sup>1</sup>      Hsu, Chih-Hao<sup>2</sup>      Lin, Chia-Ying

<sup>1</sup> 國家災害防救科技中心

### 摘要

本研究主要考量重要設施遭遇大規模地震災害之系統相依性，開發震災衝擊鏈量化模擬技術，結合本中心發展之網格化地震衝擊分析工具，進行情境模擬分析；並藉由建築資訊模型(Building Information Model, BIM)技術之輔助，考量震後直接與間接之複合性致災因素，建立大規模地震防災避難應用空間之衝擊量化分析模式，提供研議相關防災對策之科學評估依據。

**關鍵詞：**地震、相依性、情境模擬、建築資訊模型、避難、防災

### Abstract

This study mainly develops the quantitative simulation technique to evaluate the impact of cascading failure on important infrastructures with consideration of system interdependence subjected to large-scale earthquakes. The mesh-based impact analysis tool developed by our center was adopted to perform the scenario simulation. Taken the direct and indirect disaster factors into consideration, With integration of building information model,

**Keywords :** earthquake, interdependence, scenario simulation, building information model, evacuation, disaster mitigation.