

Seminar on “Quantitative Assessment of Interfacial Bonding Condition between Steel or Concrete Overlay and Substrates using Stress-Wave Methods”

2018年9月5-7日, 朝陽科技大學鄭家齊教授赴國家軌道工程香港分中心進行三天軌道版裂縫探測試驗, 使用應力波方法在一個三層結構的軌道版(混凝土 - CA砂漿 - 混凝土)識別預埋之裂縫。在9/6下午舉辦研討會, 請鄭教授帶來”使用應力波方法量化評估混凝土、鋼筋和基層各介面間的黏結狀態”專題報告。

研討會分三部分, 第一部分簡短介紹應力波檢測混凝土裂縫理論和敲擊回音試驗施作流程; 第二部份講述鄭教授之前發表過期刊的研究成果; 第三部分則是講述這次國家軌道工程香港分中心和朝陽科技大學合作案的初步模擬分析結果。會後鄭教授與倪一清教授團隊進行討論, 針對目前的試驗和數值分析結果訂定未來研究方向, 使得最後研究結果能更實務更精確。

During September 5th to September 7th 2018, Prof. Chia-Chi Cheng from Chaoyang University of Technology, Taiwan was invited to CNERC-Rail to conduct an delamination assessment experiment on track bed. We used stress-wave to find the delamination in the three layers track bed(concrete-CA mortar-concrete). On September 6th , we invited Prof. Cheng to deliver a presentation on “Quantitative Assessment of Interfacial Bonding Condition between Steel or Concrete Overlay and Substrates using Stress-Wave Methods”.

The presentation can be separate into three parts. The first part is brief introduction the theory and test process about stress-wave and impact-echo experiment. The second part is the introduction of the research which was the previous results Prof. Cheng published on SCI journal. The final part is the preliminary results of the CNERC-Rail and Chaoyang University of Technology project. After the seminar, Prof. Cheng and Prof. Ni's group have a discussion about the project. According to the preliminary results of impact-echo test and simulation, we planned a new research direction to make the project be more practical and more precise in the future.

