

Field Measurement Of Stay Cable-Deck Vibrations Of A Cable-Stayed Bridge In Wind And Wet-Snow Environment

Zhiwen LIU, Ruilin ZHANG, Chao YANG, Xianmin ZHAO, Zhenyu GAO, Zhengqing CHEN

Stay cable vibrations have been a critical concern for long-span bridges. This study presents an unusual vibration event of stay cables as well as the main deck in a cable-stayed bridge in the moderate wind velocity accompanied with wet snow. The results show that the vibration amplitude of the stay cable is several times its diameter, while the main deck vibration response is relatively small. Finally, the possible mechanisms of the stay cable vibration are discussed.