

Analysis of wake flow and wind pressure characteristics of split double box girders based on measured data

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ABSTRACT

Vortex-induced vibration can pose hazards to the comfort of pedestrians on bridges, driving safety, and the fatigue life of components, etc. In response to this phenomenon, field measurement can obtain the most authentic flow state and wake flow field pattern when the airflow passes through the bridge section in the real flow field, and simultaneously avoid the Reynolds number effect in wind tunnel tests and the variation phenomenon of the damping ratio of the real bridge with the change of the environment. With a certain split double-box girder bridge as the engineering background, by monitoring the wake flow field and surface wind pressure before and after the vortex vibration of the bridge, the characteristics of the surface flow field before and after the vortex vibration of the split box girder can be obtained, providing a reference for the subsequent suppression of the vortex vibration of the same type of box girder.

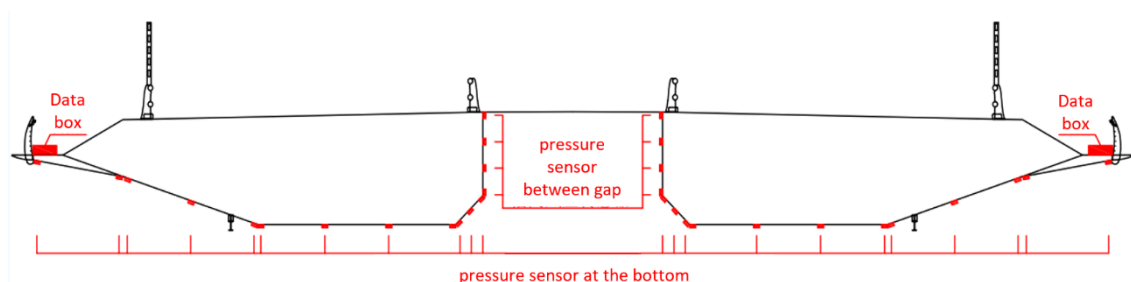


Fig. 1 Arrangement diagram of wind pressure sensors

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