**Intrinsic Damping of Cable-Stayed bridge – a new prediction proposal based on the field testing data**

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**Abstract.** Stay cable vibration excitation such as wind induced, vortex excitation, wake galloping or rain-wind combination may conduit to the risk of fatigue of the bridges structure and then reducing the service life of the bridge. Most of the design criterions proposed by International Standards on stay cable bridges are based on the Scruton number (*Sc*), the important parameter directly related to the stay cables Intrinsic damping. Furthermore, the cable inherence damping depends on parameters of system and environment and the prediction of accurate value is difficult. Testing field is generally considered as the most effective solution to evaluate and/or verifying the damping characteristics. In this paper, we present the in-situ damping tests campaign performed on a new built stay cable bridge in Vietnam with large diversity of characteristics. Based on the measurement data, a mathematical model is proposed for damping prediction as the function of frequencies, cable length and unit weigh. The coverage verification shows that the proposed model and can reflecting well the damping characteristic variation on the bridge.

**Keywords:** Intrinsic Damping, Stay Cable, Damping test, Damping prediction.

**Remark. The abstract should contain about 180 words, please ensure your abstract is within 1 page in length, thanks.**