

Kajian sambungan antara pilar dan kabel pada jembatan cable stayed

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Abstrak

In this study connection between cable and pylon in a cable stayed bridge was experimentally investigated. A structural model of cable stayed bridge was manufactured where connection between cable and pylon was pulley, sliding or hinged type. Pulley connection is a connection which is able to rotate without any function between cable and pylon. To obtain longitudinal stiffness and dynamic characteristics (such as fundamental natural frequency and damping ratio), static load test and free vibration test were carried out. Dynamic responses of bridge structure were obtained from harmonic forced vibration test. Using a shaking table, excitation in the longitudinal direction was applied to that model. Then longitudinal deflection at the top of pylon was measured. Results of the model test shown that the pylon with hinged connection is more rigid and its deflection could be minimal but has low damping ratio. While sliding type connection is more flexible but has high damping ratio. Damping ratio was strongly influenced by functions occurred in the bridge.