

## Technological Innovation of Multi-pylon Suspension Bridge

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### ABSTRACT

Multi-pylon suspension bridge is the bridge type scheme that bridge workers dream of. The rigid mid-pylon suspension bridge is the best solution for multi-pylon suspension bridges with more than three pylons. Its core is to improve the anti-slip performance of the cable saddle. Through a large number of experiments and induction, the nominal friction coefficient of the cable saddle considering the lateral wall friction resistance is obtained, and then a cable saddle is proposed with high friction

performance. The calculation method of the nominal friction coefficient and the anti-slip evaluation method of the cable saddle are given. On this basis, combined with the improvement of wind resistance performance, driving comfort and multi-span branching capacity, a "live-load anchorage design method" for multi-pylon suspension bridges was proposed, and it was successfully applied on

the engineering example-"Wenzhou Oujiang North Estuary Bridge" project.

**Keywords:** Multi-pylon suspension bridge, Anti-slip cable saddle, Live-load anchorage design method