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Title: Stato-dynamic tests and analysis of a half-through tied-arch bridge

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摘要: 以某主跨为86m的三跨连续钢筋混凝土中承式系杆拱桥为例,建立了该桥三维杆系的有限元计算分析模型,开展了实桥的静动载试验,详细介绍了静载试验加载方法以及关键截面测点布置方案;通过关键测点应变及变形实测结果与有限元计算结果的比较,并结合外观检查结果,给出了连续系杆拱桥承载能力的判断方法,供同类桥梁荷载试验及承载能力判断参考.

Abstract: In this paper,based on a three-span continuous reinforced concrete half-through tied-arch bridge which main span is 86 meters,a 3D finite element analysis model of this bridge was established and the static and dynamic load tests of the actual bridge were carried out.Then the loading method of static load tests and arrangement of test point of critical section were introduced in detail.A judgement method of load-bearing capacity of continuous tied-arch bridge is proposed by comparing the test result of strain and deformation at critical point with analysis result of finite element method,in addition to observational check.It will provide a reference to load test and judgement of load-bearing capacity for similar bridge.

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