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Analysis of the Influence of Support Failure on the Dynamic Effect of Bridge Structure

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Abstract : The degree of damage to the support is simulated by finite element software, and its influence on the static and dynamic effects of the bridge structure is analyzed. Four working conditions are selected for the study of bearing damage impact: the bearing is intact (condition 1), the bearing damage coefficient is 0.8 (condition 2), the bearing damage coefficient is 0.6 (condition 3), and the bearing damage coefficient is 0.4 (Working Condition 4). The effect value of the bridge structure under each working condition is calculated, and the simple-supported girder bridge and continuous girder bridge with typical spans are taken as examples to analyze the overall change of the bridge structure after the bearing completely fails.

Keywords : bridge bearing damage, dynamic response, finite element analysis, load conditions
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