A NEW STRATEGY FOR STRUCTURAL HEALTH MONITORING BASED ON STRUCTURAL DESTROYED MODE AND DATA CORRELATION

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ABSTRACT—This paper provides a new strategy for study of Structural Health Monitoring, and discusses establishment of structural safety monitoring system based on the structural destroyed modes and data correlation. Two concepts, structural destroyed mode and data correlation, are given and discussed. The structural destroyed mode refers to the pattern of certain structural state or situation that some kind of failure occurred. The study on data correlation focuses on the relations existed between different sensors and locations. A structural safety monitoring system for a simply supported beam including several damage indices is built, and the numerical experiment shows it works effectively.