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ON STRUCTURAL IDENTIFICATION OF CONSTRUCTED FACILITIES

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Abstract

In this paper, the objectives and on-going activities of the ASCE Task Committee on Structural Identification of Constructed Facilities are presented. The committee has been established to promote and further develop the practical application of structural identification techniques. In addition, results from the recent North-American Workshop on Instrumentation and Vibration Analysis of Highway Bridges, sponsored by FHWA, NSF, and ODOT, at the University of Cincinnati Infrastructure Institute, are summarized.

Introduction

The Task Committee on Structural Identification of Constructed Facilities in the ASCE Structural Division Technical Administrative Committee on Performance of Structures has been organized since January 1995. The objectives of this task committee are to make progress towards rationalizing our current design, construction, maintenance, and renewal practices by: (1) Developing a list of consensus definitions, and a database for establishing the actual mechanical characteristics (such as stiffness, strength capacities, etc.) and the service and damage limit states of typical constructed facilities using quantitative data in the framework of structural identification; and, (2) Promoting collection of and disseminating any available quantitative data on constructed facilities' mechanical characteristics, performance, and behavior. Members of the committee have begun to work toward these objectives. This session is our first attempt to disseminate available information and to solicit additional suggestions and comments from practicing engineers along these lines.

In this paper, the state of the art of structural identification (StI) of constructed facilities will be briefly reviewed and the most critical issues are presented. During these

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