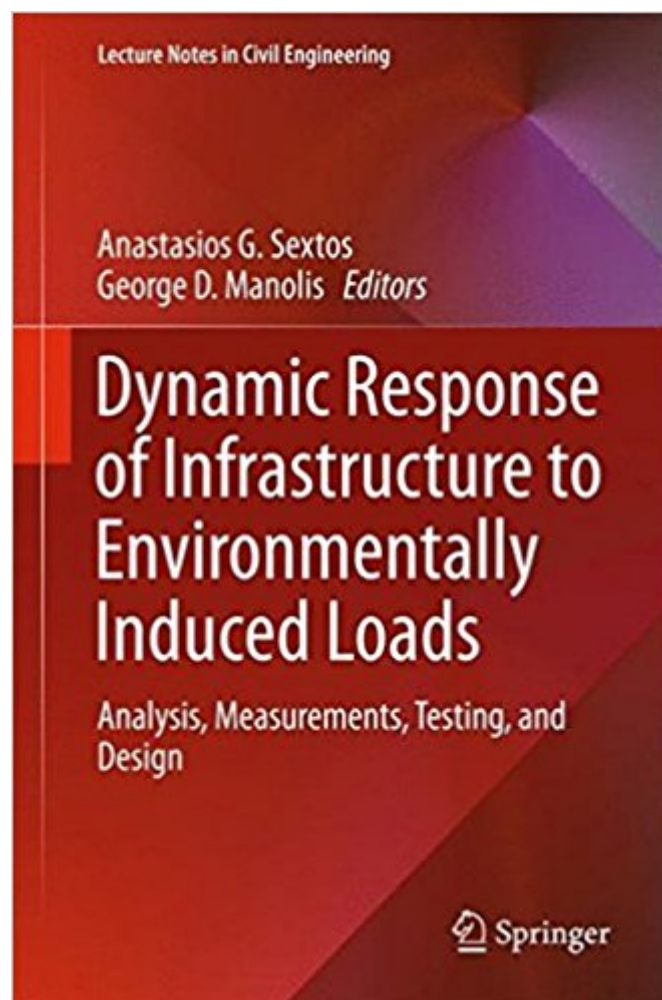


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# Dynamic Response Of Infrastructure To Environmentally Induced Loads: Analysis, Measurements, Testing, And Design (Lecture Notes In Civil Engineering)





## Synopsis

This book provides state of the art coverage of important current issues in the analysis, measurement, and monitoring of the dynamic response of infrastructure to environmental loads, including those induced by earthquake motion and differential soil settlement. The coverage is in five parts that address numerical methods in structural dynamics, soil-structure interaction analysis, instrumentation and structural health monitoring, hybrid experimental mechanics, and structural health monitoring for bridges. Examples that give an impression of the scope of the topics discussed include the seismic analysis of bridges, soft computing in earthquake engineering, use of hybrid methods for soil-structure interaction analysis, effects of local site conditions on the inelastic dynamic analysis of bridges, embedded models in wireless sensor networks for structural health monitoring, recent developments in seismic simulation methods, and seismic performance assessment and retrofit of structures. Throughout, the emphasis is on the most significant recent advances and new material. The book comprises extended versions of contributions delivered at the DE-GRIE Lab Workshop 2014, held in Thessaloniki, Greece, in November 2014.

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