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Refinements on Estimating Fixed Base Modes on a Slip Table

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ABSTRACT

In prior work by the author, a new method was demonstrated to extract fixed base modes from a modal test performed on a test article mounted on a vibration slip table. This work addresses uncertainty that was apparent in frequency and damping estimates in the previous work. After reviewing the method based on substructure coupling, additional testing indicates that some of the frequency error was due to different size attachment bolts in the seismic mass truth test and the slip table test. In the previous work, the largest errors in prediction of the truth data were associated with damping. A procedure to subtract significant low frequency slip table damping is implemented and the resulting corrected damping presented.

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