**RESPONSE SPECTRUM METHOD FOR THE DESIGN OF ISOLATED BUILDINGS**

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**ABSTRACT**

An isolated building, composed of the superstructure and the isolation system, whose damping levels are significantly different, is typically non-classical damping system. This results in inapplicability of traditional response spectrum method for the design of isolated buildings. A multidimensional response spectrum method based on complex mode superposition is herein introduced, which properly takes into account the non-classical damping feature in the isolated structure. From the base-isolated benchmark model, as a numerical example, application of the procedure is illustrated companying with comparison study of time-history method, traditional response spectrum method and the proposed method. The results show that the proposed method is valid, while the traditional approach cannot reflect the damping characteristics of isolated buildings and may lead to insecurity of structures.

*Keywords: response spectrum method; CCQC rule; complex mode superposition approach; baseisolated building*

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