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[\[PDF \(253K\)\]](#) [\[References\]](#)**NON-ITERATIVE CAPACITY SPECTRUM METHOD BASED ON
EQUIVALENT LINEARIZATION FOR ESTIMATING INELASTIC
DEFORMATION DEMANDS OF BUILDINGS**Yu-Yuan LIN¹⁾ and Eduardo MIRANDA²⁾

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It is known that iterative procedures are always needed when the capacity spectrum methods based on the equivalent linear systems are employed to estimate the maximum deformation of existing structures. In addition to inefficiency, it has been shown that the existing method sometimes leads to the lack of convergence and accuracy. Besides, the problem of multiple solutions is encountered in many cases, and it is hard to decide which one is the best. To overcome these problems, this paper presents a non-iterative capacity spectrum method using a varied version of the equivalent linear methods for determining the maximum displacement demands of existing structures. A trustworthy single value will always be obtained by the procedure.

Key Words: non-iterative capacity spectrum method, equivalent linear method, strength ratio, evaluation of existing structures

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