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### **[Abstract Title]**

A new system resiliency index considering economic impacts

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In recent years, special attention has been paid to the concept of resilience in different fields of engineering, particularly in earthquake engineering. Defining a comprehensive index of resilience is one of the challenging research topics, and various indexes could be addressed in the literature in this regard. Available indexes, generally, include two parameters of time and system performance as the main parameters of the quantification of resilience. However, the economic impact of catastrophic events is one of the essential aspects that shall be considered in the quantification system resilience. Generally, the economic impacts consist of direct economic losses, indirect economic losses due to system failure over time, and the cost of restoration of the system to an acceptable performance level. The current paper proposes a new resilience index to include the economic impacts besides time and system performance. The proposed index allows the stockholders to include not only the technical characteristics but also the financial aspects in the future system planning.

### **[Keywords]**

resiliency index, economic loss, earthquake event