

Earthquake Retrofitting Methods of Steel and Concrete Structures and Investigating Strategies to Deal With Destructive Earthquakes

Authors : Ehsan Sadie

Abstract : Today, after devastating earthquakes and many deaths due to the destruction of residential buildings, the scientific community has attracted the attention of the existing structures to strengthen and standardize construction. Due to the fact that the existing buildings are sometimes constructed without sufficient knowledge of the correct design, and even the buildings built according to the old standards today need to be reinforced due to changes in some provisions of the regulations. The location of some countries in the seismic zone has always caused a lot of human and economic damage throughout history, and attention to the strengthening of buildings, important facilities, and vital arteries is the result of this situation. Engineers' efforts to design earthquake-resistant buildings began when decades had passed since the development of design criteria and ensuring the safety of buildings against loads. New methods, mass reduction, reducing the weight of the building, use of moving structures to deal with earthquakes, as well as the use of new technologies in this field, including the use of dampers, composites in the reinforcement of structures are discussed, and appropriate solutions have been provided in each of the fields.

Keywords : brace, concrete structure, damper, earthquake, FRP reinforcement, lightweight material, retrofitting, seismic isolator, shear wall, steel structure

Conference Title : ICAEDSR 2022 : International Conference on Architectural Engineering Design and Structural Requirements

Conference Location : New York, United States

Conference Dates : January 28-29, 2022