

Modeling of Historical Lime Masonry Structure in Abaqus

Authors : Ram Narayan Khare, Adhyatma Khare, Aradhna Shrivastava

Abstract : In this study, numerical modeling of 'Lime Surkhi' masonry building has been carried out for a prototype ancient building situated at seismic zone III using the Finite Element Method by Abaqus software. The model is designed in order to get the failure envelope and then decide the best method of retrofitting the structure so that the structure is made to withstand more decades, given its historical background. Previously, due to a lack of technologies, it was difficult to determine the mode of failure. Present technological development can predict the mode of failure, and subsequently, the structure can be refabricated accordingly. The study makes an important addition to the understanding of retrofitting ancient and old buildings based on the results of FEM modeling.

Keywords : seismic retrofitting, Abaqus, FEM, historic building, Lime Surkhi masonry

Conference Title : ICCGE 2025 : International Conference on Civil and Geological Engineering

Conference Location : New York, United States

Conference Dates : January 30-31, 2025