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Spotlight on *Structures*



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The Featured Article for Volume 60 of *Structures* is now available. Ashraf Ashour, Associate Editor, has chosen a paper on a sliding-based isolation system with the aim of enhancing the seismic performance of masonry structures.

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Editor's Featured Article

Experimental investigation of sliding-based isolation system with re-centering functions for seismic protection of masonry structures

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A sliding-based isolation system is an efficient strategy to enhance the seismic performance of low-rise brick masonry buildings, a common type of construction across the globe. The previously developed isolation systems lack a proper re-centering mechanism. Therefore, in this study, a low-cost isolation system, termed reinforced cut wall (RCW) with an appropriate re-centering mechanism, is designed and tested experimentally using a shake table, which hasn't been tested previously. Two unconfined reduced scale (1:3) brick masonry buildings were subjected to frequency-based seismic excitation, and the model's corresponding acceleration and displacement response were captured.

Compared with the fixed base model, considerable reductions were observed in the acceleration and displacement response in the case of the isolated model. Similarly, the inter-story drift and floor relative displacement response was also reduced in the isolated model. Furthermore, the rebars used for the re-centering mechanism remained within the linear viscoelastic range. Based on the experimental validation, the proposed low-cost RCW isolator was found to be an efficient isolation strategy for low-rise masonry buildings in high seismic regions.

→ Read the full paper at <https://doi.org/10.1016/j.istruc.2024.105871>



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