

## **Staggered Truss Frames**

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Staggered truss framing systems have been gaining popularity for use in structural engineering because they provide large, column-free openings and rapid construction. However, their performance during seismic events has not been fully investigated. The failure of the shear connection between the floor system and the top of the truss may cause building failure and is essential to the understanding of the behavior of staggered trusses during an earthquake. The shear connection will be tested by simulating a seismic event. The strong wall/floor at Valparaiso University will be utilized to test a scale model of the shear connection until failure. The results will be analyzed to create a standard seismic design guide for staggered truss frames. A 3D interactive environment will also be produced from the test data to virtually recreate the tests for educational purposes.

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