

Session ID: SDM-11

Title

RECENT FINDINGS ON THE EFFECT OF GROUND MOTION VERTICAL ACCELERATIONS ON BUILDING STRUCTURES

Convenors

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Description

The standard practice in earthquake analysis of buildings is to increase the dead load to account for the ground motion vertical component. Thereafter, the structure is only analyzed under the ground motion horizontal components as dynamic lateral loads. However, an emerging body of evidence shows that ground motions' vertical acceleration may have a significant impact on structural and nonstructural components under certain site conditions. Subsequently, the translation of this research into professional practice requires serious coordination on the part of researchers and industry leaders that are invested in the mitigation of seismic risk.

The purpose of this technical session is to generate this coordination, focusing on the following themes: (1) recent findings from experimental campaigns (and field studies) about the impact of the vertical component of ground motions in structural and nonstructural components, (2) recent findings about the impact of the vertical component of ground motions on structural performance using numerical simulations, and (3) examining opportunities to transfer these research and technologies to practice.

We propose a session featuring a few speakers followed by a panel discussion. All speakers will have been involved in projects aimed at improving our knowledge about the impact of ground motion vertical components on structures. The goal of the session is to reach a consensus on the path forward to properly assess the impact of the vertical component of ground motions on structures.

Invited Speakers

C. Adam ³, F. Graziotti ⁴, A. Bebam Zadeh ⁵

Affiliations

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