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Seismic Vulnerability Assessment of High-Rise Structures in Addis Ababa, Ethiopia: Implications for Urban Resilience Along the East African Rift Margin

Authors : Birhanu Abera Kibret

Abstract : The abstract highlights findings from a seismicity study conducted in the Ethiopian Rift Valley and adjacent cities, including Semera, Adama, and Hawasa, located in Afar and the Main Ethiopian Rift system. The region experiences high seismicity, characterized by small to moderate earthquakes situated in the mid-to-upper crust. Additionally, the capital city of Ethiopia, Addis Ababa, situated in the rift margin, experiences seismic activity, with small to relatively moderate earthquakes observed to the east and southeast of the city, alongside the rift valley. These findings underscore the seismic vulnerability of the region, emphasizing the need for comprehensive seismic risk assessment and mitigation strategies to enhance resilience and preparedness.

Keywords : seismic hazard, seismicity, crustal structure, magmatic intrusion, partial meltung
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