

Effects of the Datum and Projection of the Data for the Earthquake Loss Assessment

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SUMMARY

Seismic loss assessment includes many estimations and uncertainties. The accuracy of the assessment decreases as the number of the uncertainties increases. To minimize the uncertainty for the loss assessment process, various studies are carrying out. One of that important error sources in loss assessment, is the estimation of the attenuation values for the earthquake ground motions. The site classes, source mechanism and the topography of the region of interest have very important affects on the estimation. But, the most important parameter of the attenuation relations all over the world is the source to site distance for the seismic waves. There are many distance types defined for the various attenuation relations. Those distance types give precise definition of the distance from source to site. However, measuring the distances using the geographic information systems (GIS) may generate important differences on the resulting acceleration values. This paper describes the importance of the source to site distance on attenuation relations and the effects of the datum and projection systems, which are used in visualization of the maps that are used for measuring and calculating the distances and the acceleration values for the region of interest.

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