

Respon seismik MSE wall satu dan dua sisi = Seismic responses of single and double sided mse wall

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Abstrak

[ABSTRAK

Pada umumnya, model dari dinding penahan tanah adalah dinding satu sisi, artinya ada dinding pada salah satu sisi model, dan ada boundary pada sisi lainnya. Pada kenyataannya, dinding di dunia nyata umumnya adalah dinding dua sisi, artinya ada dinding pada sisi kiri, dinding pada sisi kanan, dan backfill di antaranya. Pada penelitian ini, perilaku seismik dari dinding satu sisi, dan dinding dua sisi diamati. Model dari dinding penahan tanah yang mendapatkan beban seismik dimodelkan dengan menggunakan PLAXIS. Jenis dari dinding adalah modular block, tinggi dinding 6 m, dan digunakan perkuatan geogrid. Panjang dari geogrid adalah 0,7 H. Variabel bebas pada penelitian ini adalah frekuensi gempa, akselerasi gempa, elevasi titik pengamatan, dan jumlah sisi (satu atau dua). Variabel terikat adalah faktor amplifikasi (A_m), dan frequency spectrum. Dapat disimpulkan bahwa frekuensi gempa mempunyai pengaruh yang besar terhadap respon amplifikasi dari sistem. Dari frequency spectrum, dapat disimpulkan pula bahwa perilaku dari dinding satu sisi, dan dinding dua sisi berbeda.

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ABSTRACT

Generally, models of earth retaining wall are single sided wall, it means that there is a wall on one side of the model, and there is a boundary on the other side of the model. In fact, there are a lot of double sided wall, it means that there is a wall on the left side of the model, a wall on the right side of the model, and backfill in between. In this research, the seismic behaviours of the one sided wall, and the two sided wall are observed. The models of the earth retaining wall that receive seismic loading are modeled using PLAXIS. The type of the walls are modular block, the height of the walls are 6 m, and geogrid reinforcements are used. The length of the geogrids are 0,7 H. The independent variables for this research are earthquake frequencies, earthquake accelerations, elevation of observation point, and number of side (one or two). The dependent variables are amplification factor (A_m), and frequency spectrum. It can be inferred that earthquake frequencies have big impact on the amplification responses of the walls. From frequency spectrum, it can be inferred too that the behaviour of the one sided wall and behaviour of double sided wall are different, Generally, models of earth retaining wall are single sided wall, it means that there is a wall on one side of the model, and there is a boundary on the other side of the model. In fact, there are a lot of double sided wall, it means that there is a wall on the left side of the model, a wall on the right side of the model, and backfill in between. In this research, the seismic behaviours of the one sided wall, and the two sided wall are observed. The models of the earth retaining wall that receive seismic loading are modeled using PLAXIS. The type of the walls are modular block, the height of the walls are 6 m, and geogrid reinforcements are used. The length of the geogrids are 0,7 H. The independent variables for this research are earthquake frequencies, earthquake accelerations, elevation of observation point, and number of side (one or two). The dependent variables are amplification factor (A_m), and frequency spectrum. It can be inferred that earthquake

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