

Test research regarding retaining structure behaviour in large scale earthquake

[Point]

Regarding behaviour of retaining structures(retaining walls), which have backfill soil, in large scale earthquake, the interaction between the structures and ground is complicated, therefore many things are still mysteries. In this research, by dynamic centrifuge model test, we examined seismic behavior of retaining walls, as well as examined prediction method of seismic displacement amount of retaining walls.

As a result, we clarified effects of conditions, such as type of retaining walls, depth of setting, and evaluation formula of back side soil pressure on seismic displacement amount of retaining walls. Moreover, by application of ground bearing capacity considering combination load, we proposed the calculation method, which can predict retaining walls' horizontal, vertical and rotational displacement in the same time. As a result of calculation of seismic displacement amount by proposed method using the soil pressure, which obtained from dynamic centrifuge model test, , we verified calculated value can reproduce test value.

Keyword : retaining wall, earthquake, centrifuge modeltest, seismic displacement amount