

Research about rationalization of earthquake resistance design method of rock-fill dam

[Point]

Establishment of dam safety assessment method has been required for large-scale earthquake (earthquake motion level 2), based on the occurrence of large-scale earthquake such as an earthquake in southern Hyogo. This study is conducted for the purpose of suggesting safety assessment method, upon revealing damage forms of rock-fill dam at the time of large-scale earthquake.

In 2002, centrifuge model test was conducted for revealing damage forms of rock-fill dam at the time of large-scale earthquake, and reproducibility of such deformed behaviors and damage forms was verified by Newmark method as well as elastic-plastic FEM analysis. Based on the results, safety assessment method of rock-fill dam at the time of large-scale earthquake was suggested.

Keywords: rock-fill dam, earthquake level 2, centrifuge model test, Newmark method, elastic-plastic FEM analysis, earthquake resistance capacity