

Research regarding rationalization of dam foundation soft rock mechanical design

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To construct safe and economic dam on soft rock foundation, improving deformation assessment method in design stage is needed. Generally deformation of soft rock foundation shows nonlinearity depending on distortion and confined compression. In this research, we performed interior plate load and high accuracy tri-axial test of artificial soft rocks, and verified nonlinearity analysis cord using the interior test result. And also we predicted depth direction distribution of vertical distortion, which is generated on soft rock foundation under construction, and foundation surface settlement, by using nonlinearity deformation analysis considering soft foundation distortion and reliability of confined compression, objecting real dams, and verified the actual measurement. Based on the result, we proposed the design method, focused on fill-dam soft rock foundation nonlinearity deformation characteristics.

Keyword : fill-dam, soft rock, nonlinearity deformation characteristics, foundation design, numeric analysis