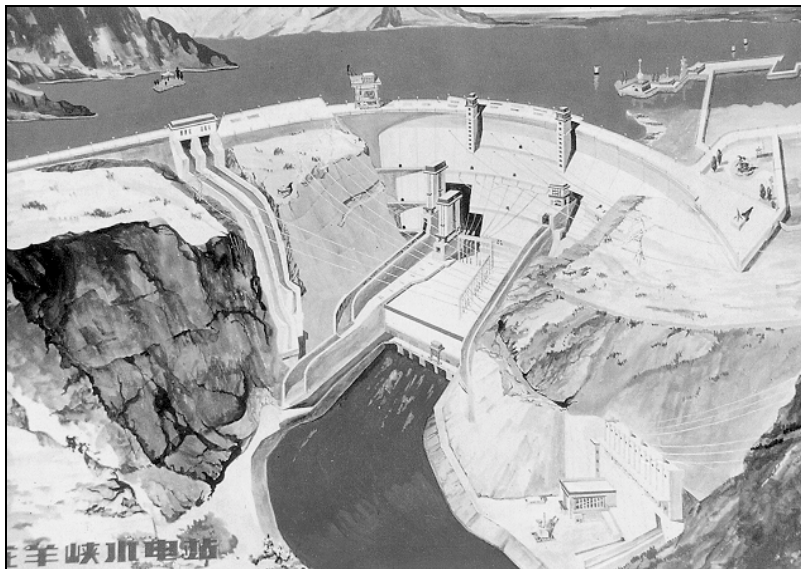


FIELD MEASUREMENTS OF DYNAMIC INTERACTION AT LONGYANGXIA DAM¹

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ABSTRACT

This paper describes an experimental study of dam-water-foundation interaction conducted at Longyangxia Dam in China. In the primary tests, the dam and its retained water were excited by detonating large explosive charges in shallow water upstream from the dam. The dam and water responses to the explosives were recorded by accelerometers, pressure sensors, as well as by three-component seismographs. In the secondary test series, the reflection coefficient of the reservoir boundaries was measured using a newly developed procedure based on the acoustic reverberation concept. The results obtained indicate that explosive detonations appear to be the best means for exciting the dam-water-foundation system, and that acoustic reverberation technique offers a practical procedure for measuring an overall reflection coefficient for the entire reservoir boundary.



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