论文类成果

EARTHQUAKES INDUCED BY RESERVOIR IMPONDING AND THEIR EFFECT ON HSINFENGKIANG DAM

【创新性】

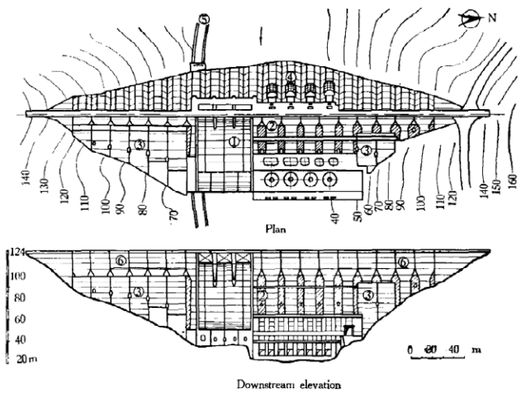
该论文在我国首次参加的 1973 年国际大坝委员会大会上发表，并引起了大会的高度关注。1974 年，该论文在《中国科学》杂志中、英文版分别发表。 对我国首例、世界四大 6 级以上震例之一的水库地震进行了深入研究，分析了水库地震成因的构造背景，给出了水库地震活动特点和发展趋势。对新丰江水库地震的地面运动特征、坝体动态特性和地震响应等开展研究，并进行现场测振检验抗震加固。在我国首次取得的坝址自由场地震动加速度记录基础上，给出了新丰江水库地震的地面运动特征，揭示了坝体地震动加速度响应沿坝高的分布规律。

【影响力】

新丰江水库地震和大坝抗震加固的系统研究，对我国水库地震和混凝土坝抗震的研究具有开拓性的引领作用，具有重要的里程碑意义，奠定了自此今后 60 余年我国混凝土坝抗震学科的发展基础。1978 年国际工程抗震界权威 Housner、Clough 教授率领的美国地震工程代表团访华交流，对该论文给予高度评价，并专程到新丰江大坝现场进行了考察，在国内外大坝抗震界产生了广泛影响。

主要完成人：沈崇刚、陈厚群、张楚汉、黄力生、李自强、杨真荣、王大钧、罗学海

受奖单位：抗震中心



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Shen Chung-kang（沈崇刚），
(Institute of Scientific Research, Ministry of Water Conservancy and Electric Power)

Chen Hou-chun（陈厚群），
(Institute of Scientific Research, Ministry of Water Conservancy and Electric Power)

Chang Chu-han（张楚汉），
(Tsinghua University)

Huang Li-sheng（黄力生），
(Bureau of Science and Technology, Kwangtung Province)

Li Tzu-chiang（李自强），
(Institute of Geophysics, Academia Sinica)

Yang Cheng-yung（杨真荣），
(Institute of Computing Technology, Academia Sinica)

Wang Ta-chun（王大钧），
(Peking University)

and Lo Hsueh-hai（罗学海）
(Institute of Engineering Mechanics, Academia Sinica)

Received April, 1973.

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【Innovation】

This thesis was published on the 1973 ICOLD Annual Meeting, the first ICOLD annual meeting China attended, and raised great concerns. In 1974, the thesis was published in Chinese and English languages respectively on Science China. It conducts in-depth research of the reservoir-induced earthquake, the first one in China and one of the four major earthquakes above magnitude 6, analyzes the tectonic background of the reservoir-induced earthquakes, and presents the activity characteristics and development trends of reservoir-induced earthquakes. It studies the ground motion characteristics, dynamic properties of dams and seismic response of Hsinfengkiang Dam, and conducts on-site vibration test to check seismic reinforcement. On the basis of first China's recording of seismic acceleration of free field of dam site, the thesis presents the ground motion characteristics of earthquakes on Hsinfengkiang Dam, and reveals the distribution of acceleration reaponse the dam height.

【Influence】

The systematic research of the earthquakes of Hsinfengkiang Dam and the seismic reinforcement plays a pioneering role in leading the research of reservoir-induced earthquakes and seismic resistance of concrete dams, has an important milestone significance, and lays a foundation for the development of seismic resistance in concrete dams in China for following 60 plus years. During their visit to China in 1978, the U.S. earthquake engineering delegation led by Prof. Housner and Clough, international authoritative experts in earthquake engineering, spoke highly of this thesis, and paid a visit to Hsinfengkiang Dam. The thesis is widely influential in the earthquake engineering of large dams in China.

Main Contributor : Shen Chonggang, Chen Houqun, Zhang Chuhan, Huang Lisheng, Li Ziqiang, Yang Zhenrong, Wang Dajun, Luo Xuehai

Award-winning Unit : Earthquake Engineering Research Center