《大坝技术及长效性能研究进展》

图书基本信息

书名：《大坝技术及长效性能研究进展》

13位ISBN编号：9787508490182

10位ISBN编号：7508490185

出版时间：2011-9

出版社：贾金生 中国水利水电出版社 (2011-09出版)

作者：贾金生

页数：782

《大坝技术及长效性能研究进展》

内容概要

The development of concrete gravity dams dated back from the end of the 19th century. After entering the 20th century, with the rapid development of concrete construction technology and construction machinery, the material for constructing gravity dams evolved from masonry to concrete. Due to its distinct advantages in simple structure, safety and reliability, and construction convenience, etc., relevant technologies of concrete gravity dams have developed quickly and gradually formed a complete modern technology system. In 1962,the Grand Dixence Dam with a height ol 285 m, the highest concrete gravity dam in the world, was constructed in Switzedand. In 2010,China completed the construction of Three Gorges Project, the largest hydraulic project in the world. The Three Gorges Dam is a concrete gravity dam with a height of 181 m.

The development of concrete arch dams also dated back from the end of the 19th century. The United States was the first country to develop modern technologies for constructing gravity arch dams. At the beginning of 20th century, United States began to construct high concrete arch dams. In 1936, Hoover Gravity Arch Dam with a height of 221.4 m was constructed in U.S. Due to its prominent advantages in economy and safety, concrete arch dams are widely adopted around the world. In 1978, the Inguri Arch Dam with a height of 271.5 m,the highest concrete arch dam in the wodd at the time, was constructed in Georgia. In 2010, China built Xiaowan Arch Dam with a height of 292 m, which is the highest among those concrete arch dams constructed in the world up to now. Currently, China is building Jinping-I Concrete Arch Dam with a height of 305m, which is the highest among those concrete arch dams under construction in the world.

Based on the previous progress achieved and the successful practices of the international milestone projects, great achievements will be made by further research works and engineering practices in the future.

《大坝技术及长效性能研究进展》

书籍目录

《大坝技术及长效性能研究进展》

章节摘录

版权页：插图：Abstract:Thermal loads are the stress boundary condition of masonry arch dam, The annual temperature field and temperature variation field are natural environmental boundary conditions, and are difficult to control artificially, but the joint closure temperature field can be controlled by engineeringmeasures. For masonry arch dam without transverse joints, the joint closure temperature of different layers are changed with air temperature, construction materials and masonry temperature. Confirm anadvisable joint closure temperature is effective mean for controlling the stress of masonry arch dam. Byway of simulative analysis of the temperature field and stress field on masonry arch dam, the effectionlaw on the stress of masonry arch dam is analysis under the conditions of the different closure temperature field, a closure emperature stress simulation model for masonry arch dam and a correspondingexpression are proposed. The computation results of one case study show that the model used to deter-mine the temperature range of joint closure is reasonable and masonry arch dam stress can be effectively controlled.This method has practical value for the design and construction of masonryarch dam.Key Words: Masonry Arch Dam; Stress of Arch Dam; Safety joint closure temperature; Calculation Model.

《大坝技术及长效性能研究进展》

编辑推荐

为总结混凝土坝技术取得的巨大成就，明确国际坝工界具有里程碑意义的工程，中国大坝协会组织编写了这本《大坝技术及长效性能研究进展》。全书收录了近百篇国内外专家的论文，反映了国际和国内在大坝技术及长效性研究方面最新、最先进的科研成果。

《大坝技术及长效性能研究进展》

版权说明