

研究简报

小拱坝体形优化计算方法

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摘要 拱坝应力分析采用有限元方法,建立以坝体混凝土方量最小为目标函数,满足安全的条件下有效降低坝体体积的拱坝优化数学模型。计算表明,优化收敛条件的判断以及体形优化计算等一系列工作都可以自动完成,无须人工干预,智能化程度较高,优化后的坝体应力更趋于均匀。

关键词 [有限元](#); [拱坝体形](#); [优化](#)

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The Internal Arch Dam Builds and Developing

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Abstract

The Finite Element Method (FEM) is used to calculate the arch dam's stress, Considering the minimum dam's volume as the objective function, It shows that this model can reduce the volume of the arch dam effectively and at the same time it can ensure the dam safety. Though the analyzing and calculation, during the work, no manpower is needed, the level of intelligence and ability is high. the arch dam's stress condition can be improved and the stability condition also be satisfied.

Key words [finite element method \(FEM\)](#) [the shape of arch dam](#) [optimize](#)

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