

我国建筑结构安全水平的合理设置

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摘要 在我国, 有关建筑结构安全水平合理设置的辩论已经进行了8 a, 通过各种形式的交流, 争论各方的观点已经开始接近。基于比较成熟的风险决策准则和考虑最优维修策略的最佳安全水平二级决策模型, 采用大多数专家学者可以接受的一些假定, 通过简单常用的工程案例进行分析, 力图对建筑结构合理的安全设置水平提出具体建议, 以期结束这场长时间的争论。通过相应的分析后发现, 在建筑结构的生命周期内, 建筑结构的最佳安全水平在相当大的范围内相对于建筑结构生命周期内的总经济消耗并不敏感, 因此, 建议在我国作为建筑结构安全水平提高的一个底线, 至少应该保证目前工程承受的风险水平不高于建国初期工程所承受的风险水平。依此原则, 通过分析认为在现行的建筑设计规范中, 建筑结构的可靠指标取值仍然偏低, 还应继续提高。

关键词 [建筑结构](#); [经济水平](#); [安全水平](#); [风险分析](#); [决策](#); [钢筋混凝土结构](#); [系统可靠度](#)

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REASONABLE SETTLEMENT OF STRUCTURAL SAFETY LEVEL IN CHINA

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Abstract

In China, an argument on reasonable settlement of structural safety level has lasted for 8 years. After necessary intercommunions in various workshops and colloquiums, the divergent viewpoints are approaching closer. It seems that it is the time to end this argument. Based on a mature risk decision-making rule and a two-layer decision-making model of optimal safety level which considers optimal maintenance scheme, using some reasonable assumptions which can be accepted by specialists and scholars, some analytical results for most popular structures are obtained. It is found that in structural life cycle, the structural safety levels are not sensitive to global cost of structures in large scale if the structural maintenance costs are included. Then it is suggested that, as a bottom line of increasing structural safety levels, the current risk level of structures should not be higher than that in early days of 1950 s in China. In this case,

the structural safety level in current design codes should still be increased.

Key words [building structure](#); [economic level](#); [safety level](#); [risk analysis](#); [decision-making](#); [reinforced concrete structures](#); [system reliability](#)

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