

学术论文

广州新电视塔天线与主塔体连接方案设计分析

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摘要: 在建的广州新电视塔总高610m,为目前世界最高的电视塔。针对天线与塔体的连接,选出插入式和桁架转换两个连接方案,并对两种方案下结构振型、风致响应、温度作用影响等进行了对比分析。结果表明:插入式方案的塔体顶部混凝土应力较大,桁架转换方案对建筑功能设计影响较大,考虑到安全问题,采用插入式方案作为广州新电视塔塔体与天线的连接方案,并提出了采用内置钢板钢筋混凝土剪力墙等的处理措施。

关键词: 电视塔 结构方案 振型 风致响应 温度作用

Design and analysis of antenna to main structural connection of the Guangzhou New TV Tower

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Abstract: The 610m high Guangzhou New TV Tower is currently the world's highest tower.For the connection between the antenna and the main structure,two alternative types of systems,the insert type and the transfer truss type,are studied and compared,including the vibration modes,wind-induced response,temperature and other effects.The results indicate that each structural systems has merits and constructional challenges.There are relatively large stress in the insert type,whereas the transfer truss type impacts the design of building function.From the perspective of safe and cost effectiveness,the insert type connection is finally adopted,and the treatment treasure of using steel plate reinforced concrete shear wall is proposed contemporary.

Keywords: structure project structure vibration mode wind-induced response temperature function

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