عنوان مقاله:

Investigation of Outrigger Brace Performance in Steel Structure Buildings against Progressive Collapse

محل انتشار:

دومین کنفرانس معماری ،شهرسازی ،عمران و محیط زیست (سال: 1401)

تعداد صفحات اصل مقاله: 8

نویسنده:

Hamidreza Ebrahimi - *Master of Structures*

خلاصه مقاله:

Many buildings have failed or been severely damaged by the progressive collapse in recent years. Many people have lost their lives due to this sudden destruction. Therefore, the structure's design is essential to deal with progressive collapse. Critical factors in this type of structure design are the type of structural system, the configuration of the structure, the reinforcement of these structures, and the behavior of the reinforced structure against progressive collapse. This study investigated the potential of progressive collapse in structural models designed using the nonlinear dynamic analysis method, UFC, and Iranian codes. Then, using an outrigger brace on the roof, the building was analyzed against progressive collapse, and the positive effect of this reinforcement was evaluated in reducing the probability of failure against progressive collapse. After performing the analysis, it was observed that the structures designed according to the Iranian codes cannot resist the progressive collapse and need to be reinforced. Buildings .that were reinforced with an outrigger brace withstood the progressive collapse and performed better

کلمات کلیدی:

Steel buildings - Progressive collapse - Nonlinear dynamic analysis - Outrigger brace