عنوان مقاله:

Active Control of Structural Vibration by Classic and Smart Algorithms

محل انتشار:

دومین کنفرانس ملی مصالح و سازه های نوین در مهندسی عمران (سال: 1392)

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خلاصه مقاله:

Erecting tall buildings especially in big cities where space limitation for developing residential areas is a prevailing problem has become a growing concern for many governments in recent years. What is important to consider about these buildings is the fact that they are mostly made up of light and highly flexible materials. The low ratio of damping to energy absorption of these structures leads to creation of a vast altitude of vibration even with occurrence of mid-level earthquakes. Thus, considering large investment in erecting such buildings and considerable revenue earned by such investment, using control systems with relatively lower costs would be justifiable. The present study aims at evaluating classic (LQR, Pole Assignment) and fuzzy logic control (FLC) models regarding their control capabilities against earthquake (Elcentro) in an eleven-stored building and then determining an appropriate control system for this .structure in two different conditions

کلمات کلیدی:

Fuzzy Logic Controllers (FLC), Quadratic Optimal Controller (LQR), Pole Assignment Controller, Control System, Structure