شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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Cairo University

INVESTIGATION OF RESPONSE MODIFICATION FACTOR FOR MRF-EBF DUAL FRAMES DESIGNED ACCORDING TO EGYPTIAN CODE

By

Amr Essam AboBakr Mohamed

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
STRUCTURAL ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

INVESTIGATION OF RESPONSE MODIFICATION FACTOR FOR MRF-EBF DUAL FRAMES DESIGNED ACCORDING TO EGYPTIAN CODE

Key Words:
Earthquake reduction factor; eccentrically braced frames; pushover analysis; Dual frames; SAP2000

Summary:

Moment-resisting frames and braced frames are both currently used as lateral force-resisting systems in multi-storey buildings. A parametric study is presented where 4-bay and 5-bay buildings of different heights (10, 15 and 20 storeys) and different shear link length (1.0m, 1.5m and 2.5m) for regular and irregular configuration are designed as dual systems according to the "Egyptian Code of Practice for Steel Construction and Bridges" and "Egyptian Code for Loads" (ECP-205 and ECP-201) using the moment resisting frames system and eccentric bracings. The performance of the frames under seismic loading is studied and observed to verify the Reduction factor "R" proposed by the Egyptian Code (ECP-201).A comparison between the computed values of the reduction factor was performed and it is concluded that a significant effect of the previously mentioned parameters on the seismic reduction factor that need to be considered.

Disclaimer

I hereby declare that this thesis in my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Amr Essam AboBakr Mohamed Date: / /2021

Signature:

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