بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

A DATA BASE INITIATION FOR SEISMIC RESPONSE ASSESSMENT OF EXISTING REINFORCED CONCRETE BUILDINGS IN EGYPT

By

MINA SAMIR PHILIP A. SEIF

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements of the Degree of

MASTER OF SCIENCE
IN
STRUCTURAL ENGINEERING

Under the supervision of

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FACULTY OF ENGINEERING - CAIRO UNIVERSITY
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ABSTRACT

A viable database was initiated for the assessment and evaluation of the seismic response of existing reinforced concrete buildings built in Egypt prior to the establishment of the recent design codes. A group of parameters for the buildings to be studied were set forth, and accordingly different buildings configurations were chosen. The buildings chosen were six- story and ten-story buildings having three to five spans, each of three to five meters length. The Egyptian code (ECP 1970) was used for the design of the buildings.

The structural analysis of this research work was performed using an available nonlinear dynamic structural analysis software package (IDARC2D) through different non-linear pushover and time history dynamic analysis procedures. The pushover performance was evaluated according to the base shear versus deformation curve, while the dynamic performance was evaluated based on the damage index, roof displacement, maximum inter-story drift, and hinge mechanism.

Comparisons were made for the seismic performance of the buildings, and finally some methods of retrofitting were introduced on selected buildings to enhance their seismic behavior by either increasing the strength or ductility of some or all of the structural elements of the buildings.

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