הטכניון
מכון טכנולוגי
לישראל

TECHNION
Israel Institute
of Technology

הפקולטה
להנדסת
מכונות

Faculty of
Mechanical
Engineering

סמינריון

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ב' 07.12.20
(כ"א בכסלו, תשפ"א), בשעה 12:30 באמצעות הזום :

https://technion.zoom.us/j/96080453418

מרצה : מעין יצחק גודמן

מנחה : פרופ' יורם הלוי

על הנושא:

A Modal Approach for Structural Health Monitoring
The seminar will be given in Hebrew

תקציר ההרצאה :

This research presents a modal approach to SHM, structural health monitoring. SHM is an ever-growing field seeking to create a reliable method to detect, locate and quantify damage in large structures such as bridges and large antennas, in order to prevent loss of performance abilities and prevent catastrophic damage events.

In order to achieve a reliable and low-cost method to SHM, we seek a modal approach to the problem, i.e. via the eigenfrequencies and eigenvectors. We will attempt to work with a general finite-element model, and thus creating a method that applies to most large structures.

The main problems that arise in a modal attempt at SHM is partial data with measurement errors, usually incomplete sets of eigenvectors and their natural frequencies, with missing entries, and errors in the values present in the measurements. We will compare several known SHM methods which exploit modal information, and, introduce a novel Monte-Carlo based Modeshape Expansion Method, which yields promising results.

בברכה,

פרופ"א אמיר סאו
מרכז הסמינרים