

הנדך מוזמנת להרצאה סמינריונית של הפקולטה להנדסת מכונות, **במסגרת הדוקטורט** שתתקיים ביום ב' 3.06.2019 (כ"ט באייר, תשע"ט), בניין דן קאהן, אודיטוריום 1, 14:30.

מרצה: סולומון דוויס

מנחה: פרופ' יצחק בוכר

על הנושא:

Autoresonance and Modal Filtering for Fast-Sensing and Actuation

The seminar will be given in English

תקציר ההרצאה:

Autoresonance, also known as Positive Feedback, or Self Excitation is a nonlinear feedback method capable of automatically exciting a second order system at resonance. Though well studied since the 1940s, certain nuances in the limit cycle behavior of such systems in the time and frequency domains have been brought to light in this work. This enhanced understanding allows for novel approaches in high-speed Atomic Force Microscopy. Furthermore, when Autoresonance is combined with a second method, Modal Filtering, the combination allows one to not only resonate a second order system, but also to select which resonance to excite when multiple resonances are present. The method is even capable of selecting a specific vibration mode when they exist in doublet pairs, or when they are complex, as is the case with the annulus of an acoustic levitation motor, or a whirling turbine rotor. These novelties will be demonstrated analytically, numerically and experimentally.

בברכה,

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