

סמינריון

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ב' 14/2/2022
: (י"ג אדר א', התשפ"ב), בשעה 10:00 באמצעות הזום :

<https://technion.zoom.us/j/95671805750?pwd=UmgYREZxOUNEOWxZWUIGaSswR2p3Zz09>

מרצה : ארנון רוזנברג

מנחה : פרופ' דורון שילה ודוקטור שחף וולך

על הנושא :

Micro-mechanical Tamper Protection Device based on Shape Memory Alloy

The seminar will be given in Hebrew

תקציר ההרצאה :

A micromechanical device for identifying physical tampering with hardware on printed circuits is presented. Any addition, removal, or replacement of an electronic component is performed via heating while the circuit is turned off. Therefore, tamper protection requires detecting malicious heating event after it has been over, through an irreversible response of the detection mechanism. Also, the device is required to have small dimensions and to be suitable for mass production. The following design aspects will be discussed:

- The thermo-mechanical behavior of shape memory alloys (SMA).
- Technologies to produce micro-electromechanical systems (MEMS).
- A bi-stable spring mechanism, based on curved beams, to provide an initial deformation to the SMA element.

I will present a methodology for choosing the device parameters, based on analytical and numerical solutions, and the detailed design of the device.

בברכה,

פ"פ א"ח איתי סאס
מרכז הסמינרים