סמינריון

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ה׳ 19.11.2020

(ג׳ בכסלו, תשפ״א), בשעה 13:30 באמצעות הזום :

מרצה : שיר בניטה

מנחה : פרופ׳ דוד אילתה

על הנושא :

משפעלים פיאזואלקטריים המבוססים על גלי שטח
Surface waves in piezoelectric structures for actuators
The seminar will be given in Hebrew

תקציר ההרצאה :

This research considers lamb waves in piezoelectric single crystalline layers. There are two types of Lamb waves: extensional waves and flexural waves, which are also known as symmetric and antisymmetric waves, respectively. For an application of an ultrasonic micromotor, we aim to use surface waves to generate motion in a fastener that is in contact with the upper and bottom surfaces of the layer. We show that for each one of the two types of Lamb waves, there are two varieties of waves: a prograde wave and a retrograde wave. In a prograde wave, material points at the top of the wave move in the same direction as of the wave propagation, and in a retrograde wave the material points at the top of the wave move in a direction that is opposite to that of the wave propagation. In this research we seek to find a wave length in which we can excite both a prograde and a retrograde wave, using the same set of inter-digitated electrodes (IDEs). Trivially, this means that each of the two waves is excited at a different frequency, and this should allow to drive the fastener in two opposite axial directions by simply switching between two distinct driving frequencies.

בברכה,

פרופ׳/ח אמיר סואו
מרכז הסמינרים