

סמינריון

הנך מוזמנת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 30.05.16 (כבי באייר, תשע"ו), בבניין דן-קאהן, קומה 0, אודיטוריום 1, 14:30.

ירצה: רפאל דהן

מנחה: פרופ'ח טל כרמון

על הנושא:

Droplet optomechanics

The seminar will be given in English

להלן תקציר ההרצאה:

Droplet is one of the most fundamental structure in nature. Yet, their mechanical resonances were never before studied. This is in contrast with droplets capillary resonances (where restoring force is by surface tension) that were studied by Rayleigh in 1879.

The aim of this work is to experimentally excite the acoustical modes of microdroplets. Here we fabricate micro droplets and activate them as a hybrid resonator that co-hosts optical- and mechanical-resonances. The acoustical mode of the droplet is then excited by using the radiation pressure of the optical mode.

We experimentally observe acoustical vibrations at 40 MHz that start at an optical threshold of 68 μ W. The high optical quality factors (optical, mechanical and capillary) of our droplets suggest hybridizations of different wave-systems that might allow multi-sensory detectors where many waves are used (sound, light and capillary waves) to interrogate an analyte.

בברכה,

ד"ר אריאל אריאל

מרכז הסמינרים