

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב' 17.09.2018 (ח' בתשרי, תשע"ט), בניין דן קאהן, אודיטוריום 1, 14:30.

מרצה: ליאור גולדשטיין

מנחה: פרופ"מ אמיר גת

על הנושא:

Non-Newtonian Flows in Annular Shock-Absorbers

The seminar will be given in Hebrew

תקציר ההרצאה:

Viscous flows in annular configurations are commonly encountered in the context of dampers and shock absorbers. In many cases, such devices involve rapid actuation of a highly viscous fluid, yielding non-Newtonian fluidic response. This seminar will present an analytical study of a non-Newtonian 'Carreau' fluid in an annular configuration. The analysis is based on asymptotic expansions with regard to a small parameter representing the ratio between of non-Newtonian effects and Newtonian effects. The approximated solutions are verified via a series of CFD computations. The derived model is then used in the analysis of realistic dynamics of medium-sized shock-absorber, and the design of an optimal geometry. Based on analytical and numerical results, an experimental setup of a viscous-damper device with non-Newtonian fluid was constructed and tested. The experimental results agree with the numerical and analytical results.

בברכה,

פ"מ א"מ איתן סאס

מרכז הסמינרים