

סמינריון

הנדך מוזמנות להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ה' 9.01.2020
(י"ב בטבת, תש"פ), בניין דן קאהן, אודיטוריום 1, 13:45.

מרצה: ירדן מרקוביץ

מנחה: פרופ"מ שמואל אוסובסקי

על הנושא:

Energy Absorption in AM Ti6Al4V Thin Walled Cylinders

The seminar will be given in Hebrew

תקציר ההרצאה:

Thin walled structures are repeatedly being used as energy absorbers in the car industry, aiming to dissipate energy during a collision. The emergence of 3D metal additive manufacturing processes has paved the way to geometrical topology optimization of such structures without the traditional limitations arising from the manufacturing complexity. Metallic components manufactured using additive manufacturing often suffer from poor surface quality, which in turn has a large effect on the ability of a thin walled structure to resist buckling. In this work, the effect of printing parameters on the resulting surface roughness of thin walled tubes with circular cross section is examined under dynamic and static loads. Our results demonstrate that while under static load the energy absorption is strongly influenced by the surface roughness, under dynamic loads, those differences tend to diminish. Moreover, different printing parameters considered in this work, for which very similar surface roughness is obtained, are observed to result in rather different microstructures leading to an increased energy absorption capability.

בברכה,

פרופ' א"א אתי סאס
מרכז הסמינרים