

סמינריון

הנדך מוזמנת/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ד' 30.06.21 (כ'י

בתמוז, תשפ"א), בשעה 13:30 באמצעות הזום :

<https://technion.zoom.us/j/91740823461>

מרצה : טל נמיר

מנחה : פרופ"מ שמואל אוסובסקי

על הנושא :

On The Mechanical Behavior of AZ31B Magnesium Alloy Reinforced by SiC Particles

The seminar will be given in Hebrew

תקציר ההרצאה :

In the last decades, the car and aviation industries have shown a growing interest in magnesium (Mg) alloys, due to their high specific strength. With that said, the widespread usage of Mg alloys is hindered by their low ductility and strong anisotropy. Severe plastic deformation, e.g. by Equal Channel Angular Extrusion has been proposed as a means to enhance the usability of Mg alloys.

In this work, the mechanical behavior of AZ31B magnesium alloy, reinforced by SiC particles and processed by ECAE, was studied experimentally to explore its yield surface and its evolution with plastic strain accumulation.

At first, uniaxial tension and compression experiments were conducted, in the quasi-static and dynamic strain rate regimes, for different specimen's orientations. The specimens' fracture surfaces were examined and the differences in failure mechanisms related to the different orientations have been elucidated.

Finally, anisotropic yield locos were calibrated for different plastic strains, and strain rate regimes. The calculated yield loci were implemented in an FE commercial code and their validity was tested against the experimental data.

בברכה,

פרופ"ח איתי סאס

מרכז הסמינרים