

## סמינריון

הנדך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות שתתקיים ביום ה' 22.11.2018  
(ידי בכסלו, תשע"ט), בניין דן קאהן, אודיטוריום 1, 13:30.

**מרצה:** טל עזרא

**מנחה:** פרופ' אולג גנדלמן

**על הנושא:**

## **Escape of dynamical system with multiple degrees of freedom from classical potential well**

The seminar will be given in Hebrew

**תקציר ההרצאה:**

Escape from a potential well is a classical problem, relevant in many branches of physics, chemistry and engineering. Among many examples of possible applications, one encounters dynamics of molecules and absorbed particles, celestial mechanics and gravitational collapse, energy harvesting, various aspects of capture into and escape from the resonance, as well as a capsizing of ships.

In our study we investigated the escape of dynamical system with two degrees of freedom from a nonlinear one-dimensional potential well for three different model potentials, in the case when only one of the degrees of freedom is initially excited. We show that with simple analytical methods it is possible to develop an analytical relation between the energy that we have to put in the system in order to escape from the well, as a function of the spring stiffness. With these simple methods, we are able to get very reliable approximation for the cases of low stiffness and high stiffness that cover almost all stiffness range. In addition, we show that the system between the zones of validity of these two limit asymptotic approximations exhibits chaotic characteristics.

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בברכה,

פרופ' א"מ אתיון סאס

מרכז הסמינרים