

סמינריון

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ה' 19.03.15 (כח' באדר, תשע"ה), בבניין דן-קאהן, קומה 0, באודיטוריום 1, שעה 14:30.

ירצה: סרגיי רובינסקי

מנחה: פרופ' שאול גוטמן

על הנושא:

עימות רדיפה והתחמקות בין שלושה שחקנים **A three player Pursuit-Evasion Conflict**

להלן תקציר ההרצאה:

This seminar deals with a three player conflict. In addition to the standard pursuit – evasion game, in which the pursuer minimizes and the evader maximizes the miss-distance, the evader launches a short range missile (Defender) to defend itself. In such a scenario, the Missile's objective is to evade the Defender and intercept the Target, the Defender's objective is to intercept the Missile and prevent it from capturing the Target, and the Target's objective is to escape the Missile. In this research, hard bounds are placed on players' maneuvering capabilities, which lead to nonlinear strategies. We will describe a solution, called the Vector Guidance (VG) approach. In the Vector Guidance scenario, a player can apply bounded acceleration in any direction in 3D space. The VG kinematics is defined in a 3D Cartesian coordinate system and does not suffer linearization. In addition, a recursive algorithm for the estimation of the time-to-go is presented. It will be shown that the time at which the missile switches from evasion to pursuit is substantially smaller than the Missile-Defender pass time; hence, the missile can start pursuing the target before it passes by the defender. Planar and 3D simulations that confirm theoretical results are provided.

בברכה,

ד"ר אריאל אריאל

מרכז הסמינרים