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הטכניון
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הפקולטה
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Faculty of
Mechanical
Engineering

סמינר - SEMINAR

הנך מוזמן/ת להרצאה סמינריונית של הפקולטה להנדסת מכונות, שתתקיים ביום ב׳ 07.03.2022
(ד' באדר ב' תשפ"ב), בשעה 14:30 , אודיטוריום 1,בניין דן קהאן.

מרצה:

Prof. Henryk Flashner
University of Southern California, Los Angeles

על הנושא:

Computational Method for Modeling of Beam-Like Flexible Systems
The seminar will be given in English

להלן תקציר ההרצאה:

A computational method for modeling linear flexible systems will be presented. In the proposed approach interconnections between bodies and connections to inertial frame are formulated as linear constraints. Dependent and independent coordinates are separated using orthogonal coordinate transformation. Elements of the flexible system such as beams, point masses and rigid bodies are uniformly represented in modal form. Formulation of connections as constraints allows for establishing rigid and interconnections at any location on the structure including the boundaries. The unified formulations of interconnections between bodies and to the environment and the representation of system elements in modal form allow for an efficient modeling of two and three-dimensional flexible systems. Separation of dependent coordinates also allows for an efficient computation of constraint forces, and thus of stresses, at any point on the structure.

To demonstrate the versatility of the proposed method will be applied to a variety of flexibles systems. The examples include multi-span beams with varying stiffness, beams on elastic foundation, interconnected beams point masses and rigid bodies, and two and three-dimensional frames. Application to modeling for control design and for computation of system's mass properties will also be discussed.

מארח : פרופ׳ אמר׳ פנחס בר-יוסף, פרופ׳ יצחק בוכר

בברכה,

פרופ"ח אמני סאו
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