



Solid State Institute
המכון למחצב מוצק

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הטכניון
מכון טכנולוגי
לישראל

SPECIAL SEMINAR

סמינר מיוחד

Nonlinear feedback-driven laser-material interactions

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Abstract

Ultrafast laser-material interactions is well known for its diverse scientific, industrial and medical applications. Until recently, this process has been idealized as a one-way interaction: the laser beam modifies the material — end of the story. The possibility of the material modifying the laser beam, in return, and that this could open new doors appears to have been overlooked. Such two-way interactions either did not occur, or were unrecognized, if present, and actively prevented, if recognized. Our approach is to explicitly design for and exploit such interactions, and has already led to several striking advances within 3 years. Despite the physical system being completely different in each case, from a silicon crystal to molybdenum surfaces or colloidal nanoparticles, they are all nonlinear systems, which we deliberately drive far from equilibrium with the laser pulses. In fact, far-from-equilibrium systems are far from being understood. Looking further ahead, could we help answer some of the open questions as we figure out, step by step, how to control these diverse systems?

ההרצאה תתקיים ביום חמישי, ה-23.2.2017 בשעה 12:30
בבניין פיסיקה, חדר סמינרים (502)
**The lecture will take place on Thursday, 23.2.2017 at 12:30
at the Physics Building, Seminar Room (502)**

Host: Distinguished Professor Moti Segev