



Solid State Institute
המכון למצב מוצק

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Higgs amplification in non-equilibrium K3C60

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Abstract

The quest for new functionalities in quantum materials has recently been extended to non-equilibrium states. In the context of superconductivity, examples have included the generation of transient superconductivity above the thermodynamic transition temperature, the excitation of coherent Higgs-mode oscillations, and the optical control of the interlayer phase in the cuprates. In this talk, I will propose that a prompt quench into a transient superconducting state from a metal induces large Higgs fluctuations of the order parameter, and will demonstrate that these fluctuations give rise to the amplification of light at frequencies below the superconducting gap. I will show new measurements on K3C60, in which these predictions are verified experimentally.

ההרצאה תתקיים ביום רביעי, ה-16.1.19 בשעה 12:30
באודיטוריום המכון למצב מוצק, קומת כניסה
The lecture will take place on Wednesday, 16.1.19 at 12:30
at the Solid State Institute auditorium, entrance floor

Host: Assistant Professor Yoav Sagi