

TECHNION Israel Institute of Technology

SPECIAL SEMINAR

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Distinguishing between classical (coherent state mixtures) and quantum drivers in strong-field experiments".

Ahlam Hegazi Physics Department and the Solid State Institute Technion

<u>Abstract</u>

Recent theoretical and experimental studies showed that high harmonic generation (HHG) and above threshold ionization (ATI) can be driven by non-classical light, e.g. bright squeezed vacuum. However, all the theoretical studies analyzed these processes by incoherent summation of semiclassical contributions. This raises a pivotal question in the emerging field of strong-light quantum optics: are there quantum signatures in these experiments that cannot be obtained by driven these processes with a mixture of coherent states? I will address this question in my talk and present a proposed ATI experiment that distinguishes between squeezed driver and coherent state mixture driver.

> ההרצאה תתקיים ביום חמישי ,ה-16.5.24 בשעה 12:30 באודיטוריום המכון למצב מוצק, קומת כניסה The lecture will take place on Thursday, 16.5.24 at 12:30 at the Solid State Institute auditorium, entrance floor

> > M.Sc. Student of Professor Oren Cohen