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【401】Terahertz quantum optics in the time-domain.

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The field of terahertz (0.1-10 THz) science and technology has had an exotic standing for a long time, due to the lack of performant sources and detectors. In this range, both electronics and optics fail to provide a performant solution. The scope of this work was to initiate experiments in quantum optics at terahertz frequencies, which lead to the exploration of the characteristics of quantum states of light in the time-domain. Using in-house developed ultrasensitive field measurement techniques we measure, for the first time, the field correlation on the electromagnetic vacuum state as a function of time and space.

Author: Dr BENEA-CHELMUS, Ileana-Cristina (Harvard John A. Paulson School of Engineering and Applied Sciences)

Presenter: Dr BENEA-CHELMUS, Ileana-Cristina (Harvard John A. Paulson School of Engineering and Applied Sciences)

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