

PHYSICAL MATHEMATICS SEMINAR

A novel approach to the quantum mechanics of radiating atoms (etc.)

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ABSTRACT:

In quantum mechanics textbooks one will typically read that the emission / absorption of electromagnetic radiation is a process that can only be described using quantum field theory, here QED. In some publications it is categorically claimed that QM **cannot** describe the relaxation of an atom to its ground state under the emission of radiation. In this talk I recall why such claims have been made. Then I present a novel quantum-mechanical approach to the interactions of electrons and photons that gets a number of “impossible” results right. This is still work-in-progress, and I conclude with an outline of where I plan to go.

TUESDAY, NOVEMBER 1, 2022

2:30 PM – 3:30 PM

Building 2, Room 449

<http://math.mit.edu/seminars/pms/>