

Abstract Submitted
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Non-linear optics of a strongly coupled multiple-cavity polariton

MICHAEL CRESCIMANNO, Dept. of Physics and Astronomy, Youngstown State University — Experiments at CWRU have developed cavity organic polaritons that display record-breaking vacuum Rabi splittings of more than an eV (for an optical transition). These strongly coupled polariton systems open an exciting new regime for exploring non-linear optical effects, and we describe a quantum optical model and its experimental consequences for a single and double cavity system currently being studied in the laboratory. Strongly coupled photon-matter systems such as these may be the foundation for technologies including low-power optical switching and computing.

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