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Ultrastrongly-coupled Polariton Enhanced THG : Experiment and Theory MICHAEL CRESCIMANNO, Dept. of Physics+Astro, Youngstown State University, BIN LIU, SAMUEL SCHWAB, KENNETH SINGER, Dept. of Physics, Case Western Reserve University — Recent experimental results on enhanced third harmonic generation (THG) from ultrastrongly-coupled polaritons are reported and used to test the theoretical understanding of this process in complex organic non-linear optical materials and geometries at very large coupling. In contrast to other studies which pump these systems on the polaritons, we measure and model THG output at wavelengths corresponding to the polariton resonances.

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