

Abstract Submitted
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Saturation of the Afterbounce Shape Instability in Single Bubble Sonoluminescence; Theory and Experiment¹ MOGENS LEVINSEN, Niels Bohr Institute, University of Copenhagen — Excitation of the afterbounce instability represents one route to bubble death in single-bubble sonoluminescence. By taking the existing first order theory for excitation of shape instabilities represented by expansion in a spherical harmonic to second order thereby mixing spherical harmonics of different orders, we show that the exponential growth into bubble disruption in a certain parameter regime is checked and a saturated stable state of shape distortion is possible. Experimental evidence provided by Mie scattering is presented and a possible connection to simultaneous spatially anisotropic light emission discussed.

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