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Spectra of single bubble sonoluminescence from noble gas mixtures MOGENS LEVINSEN, Biocomplexity Lab, Niels Bohr Institute, Blegdamsvej 17, Copenhagen, Denmark — In single bubble sonoluminescence a gas bubble trapped by a resonant sound-field emits pulses of light in synchrony with the exciting field. The exact nature of the light emitting processes is, however, not known, and the extent to which internal compressional waves or even shock-waves in the gas affect these processes is still an open question. Simulations suggest that most likely such waves would lead to segregation of species which presumably would have consequences for the intensity and spectrum of the light emitted. We have measured the spectra from single sonoluminescing bubbles seeded with various mixtures of noble gasses. The results are discussed in the light of theoretical expectations.

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