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Interpretation of the pressure waves radiated by oscillating bubbles

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An oscillating bubble is an excellent acoustic radiator. In a pressure wave emitted by the oscillating bubble information about the bubble properties and behavior is present. Hence, when using a suitable method, this information could be extracted and used to improve our understanding of the physical processes accompanying the bubble oscillations. However, to be able to extract this information, a number of prerequisites must be met. First, the measuring apparatus should be able to record a faithful copy of the pressure wave. Second, a large, statistically representative set of pressure records must be available for the analysis. Third, a suitable method must be used to analyze the recorded waves. All these requirements will be discussed in detail at the conference. Presented results are based on experience gained during evaluation of a large set of pressure records obtained recently in experiments with spark generated bubbles. [Work has been partly supported (K.V.) by the Czech Ministry of Education as the research project MSM 46747878501.]