

# **STUDIES OF A MEMS PRESSURE TRANSDUCER FOR SHOCKWAVE MEASUREMENTS**

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## **ABSTRACT**

A series of experiments were conducted to investigate the suitability of a silicon Micro-Electro-Mechanical Systems (MEMS) pressure transducer for shockwave measurements. MEMS transducers are small and cheap, enabling them to be integrated into arrays. Their small size is of particular importance for shockwave measurements because their small profile minimises shockwave perturbation. The investigation included static and quasi-static pressure calibrations to test linearity, and transient measurements involving sharp pressure pulses to examine their rise-time. For comparison, the measurements were conducted alongside two conventional air blast pressure transducers. This paper describes the results as well as the MEMS pressure transducer physical characteristics and installation details. The suitability of MEMS transducers for shockwave measurements is discussed.