

GAS GUN FOR IMPACT STUDIES

G. R. Fowles, G. E. Duvall, J. Asay, P. Bellamy,
F. Feistmann, D. Grady, T. Michaels & R. Mitchell

ABSTRACT

A detailed description of the four-inch gas gun that has been designed and installed at Washington State University is presented. The design velocity is $1.4 \text{ mm}/\mu\text{s}$; the maximum velocity achieved to date is $0.9 \text{ mm}/\mu\text{s}$ with a 1100 gm projectile. Angular misorientation of the projectile with respect to the target surface is consistently below 0.5 milliradian. Brief descriptions of ancillary instrumentation and equipment are given and research problems under investigation in the areas of phase transformations and constitutive relations are discussed.