

Abstract Submitted
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Gas gun ballistic testing of moving prestressed targets A.D. RESNYANSKY, S.L. PARRY, S.A. WECKERT, Weapons and Combat Systems Division, DST Group, PO Box 1500, Edinburgh SA 5111, Australia — Analyzing the response of modern mobile platforms to ballistic impact is a challenge due to target mobility and inherent structural loads. The present work presents an experimental and numerical analysis of ballistic impact against simulated moving targets with the target plate samples under prestressed load. Representation of the target movement is achieved with an experimental set-up of impact against a plate target where an elongated projectile colliding with the target at the corresponding angle providing a normal impact, but with a transverse velocity component. The present experimental analysis considers the impact by a 50 calibre projectile against an aluminium target and shows the influence of the sample prestress on the damage of the material. The modelling agrees well with the experiments.

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