

Abstract Submitted
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High-speed schlieren imaging of rocket exhaust plumes CARALYN COULTAS-MCKENNEY, KYLE WINTER, MICHAEL HARGATHER, New Mexico Tech — Experiments are conducted to examine the exhaust of a variety of rocket engines. The rocket engines are mounted in a schlieren system to allow high-speed imaging of the engine exhaust during startup, steady state, and shutdown. A variety of rocket engines are explored including a research-scale liquid rocket engine, consumer/amateur solid rocket motors, and water bottle rockets. Comparisons of the exhaust characteristics, thrust and cost for this range of rockets is presented. The variety of nozzle designs, target functions, and propellant type provides unique variations in the schlieren imaging.

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