

**Abstract ID:** 11670

**Title:** Versatile Electromagnetic Mortar Launcher for the JLTV-B

**Abstract Text:** Sandia National Laboratories has developed prototype electromagnetic coil launcher technologies of various bore sizes, lengths, and muzzle energies. Operational characteristics that distinguish induction-based electromagnetic (EM) launch from competing approaches include: continuously-adjustable, precise muzzle energy; near-silent launch; no muzzle flash; multiple round simultaneous impact (MRSI) capability; minimal EM impact on sensors/payloads in cargo-capable rounds and on GPS nose/tail kits; and open breech for auto-loader. Sandia proposes rapid construction and demonstration of an 81 mm mortar launcher prototype for deployment on the Joint Light Tactical Vehicle (JLTV) weapons carrier, payload configuration B, for use by light mobile infantry. This proposed application would be based upon induction electromagnetic gun technology developed and matured at Sandia, and leverage pulsed-power energy density and system efficiency gains achieved by industry in the past few years. Mortar launcher system performance, 81 mm mortar round flight performance, and conformity to JLTV-B carriage specifications would be developed through use of our EM and circuit modeling analysis tools, aerodynamic performance codes, and solid modeling tools. Programmatic, technology, and system maturation plans will also be presented.