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## CHARACTERISTICS OF THE TIME SEQUENCE FOR THE HIGH-SPEED METAL JET UNDER AXIAL STRONG PULSED MAGNETIC FIELD

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The tanks and armor vehicles can be damaged by high-speed metal jet caused by the High Explosive Anti-Tank (HEAT). In order to improve the effective length and the penetration capacity of the metal jet, the electromagnetic enhancing system for the metal jet is put forward. Aiming to the effect of the time sequence to the performance of the metal jet, the relationship between the times of the high-speed metal jet and the strong pulsed magnetic field is analyzed, and then a numerical simulation model is established based on the Transient Magnetic Solver. After that the validity of the electromagnetic enhancing system for high-speed metal jet is verified, and the distribution characteristics of the magnetic field and the current density are obtained. It can draw the conclusion that the high-speed metal jet can become deformed with the effect of the axial pulsed magnetic field. And then the high-speed metal jet cannot be put off by the stretching force caused by the uneven velocity distribution. Furthermore, the radius of metal jet may become more even and the effective length will be extended. Thus, the penetration capacity of the metal jet will be improved. It also can be seen from the paper that as to the system analyzed in the paper, the best delay time of the metal jet is 122.5  $\mu\text{s}$  when the velocity is 3000 m/s. Meanwhile, the best delay time is to make the peak point of the discharge current just coincide with the time when the center sections of the metal jet and the magnetic field coil are consistent.

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