

Effect of Smoke Screen's Transmissivity on Laser Homing Guidance

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Abstract: Countermeasure simulation means of smoke screen countering laser guided weapon based on certain laser guided weapon (1.064 μm) digital simulation platform was presented. The simulation results of the smoke screen's countering laser guided weapon under typical weather environment and different transmissivity ($T = 0\% - 100\%$) of 3 bomb release modes were given, and the value of smoke screen interference in battle field was analyzed quantitatively. The simulation results indicate that the proposed method is feasible for the smoke screen interference effect checking. For the present seeker's performance, the present smoke screen shape, when the transmissivity is more than 69%, the precision of laser homing guidance wouldn't be influenced; when it is less than 15%, the precision would be influenced seriously and the simulation diverge.

Key words: physical chemistry; smoke screen; smoke agent; interference; transmissivity; LOWTRAN7; simulation; laser guidance

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