Experimental Investigation of the Reflection of a Planar Shock Wave over a Double Wedge

1st Periodical Report
by
Professor G. Ben-Dor


Contract: DAJA 45-87-C-0042
1. Work completed during the reported period:

1. Experiments of the reflection of a planar shock wave over various double wedge combinations have been conducted.

2. The experiments were conducted with $M_i = 1.3$ and a variety of $\theta_1^V - \theta_2^V$ combinations.

3. The experiments were recorded using schlieren photography, shadowgraphs and high-speed photography.

II. Work to be done in the remaining period of the contract.

1. Complete the experimental study to cover the entire $\left(\theta_1^V - \theta_2^V\right)$-plane and other values of incident shock wave Mach numbers.

2. Evaluate the experiments and compare them with the analysis developed by Ben-Dor & Dewey.

3. Conduct pressure measurements along the first and second surfaces of the double wedge for various $\theta_1^V - \theta_2^V$ combinations and evaluate the results.

4. Develop a numerical code to simulate the phenomenon.
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