

ANALYSIS OF THE COMPLETE TRANSITION PROCESSES FROM A HIGH MACH NUMBER REFLECTED SPHERICAL SHOCKWAVE

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An analysis is presented of laser-light, sequential, high-speed photo-graphs of the complete transition processes of a scaled-down, Pre DIRECT COURSE, height-of-burst (HOB) shockwave. The analysis consists of position-time data during the transitions from the regular reflection (RR) to double-Mach reflection (DMR) to single-Mach reflection (SMR). Horizontal and vertical measurements of the primary and secondary triple-points and the length development of the kink between them and its abatement with time have been made for the DMR and SMR transition periods. These data appear to indicate the exact instant when the DMR process stops and the SMR process starts for this specific scaled-down Pre DIRECT COURSE HOB. This instant of time should correlate with the exact time for the disappearance of the gauge-recorded secondary peak.