

## **Underwater Implosion Pressure Pulse Interactions with Submerged Plates**

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An investigation is conducted to study the underwater interaction of implosion pressure pulses with large plates. Two plates with stiffnesses greatly apart are investigated experimentally in a large-diameter pressure vessel for their responses during implosion of a thin metallic shell. High-speed photography with 3D Digital Image Correlation (DIC) measurements is employed to obtain deformation data of the plates. Local dynamic pressure histories are also simultaneously recorded to investigate incident, reflected and, transmitted fluid pressures across the plates during dynamic loading. A new model is proposed starting from Taylor's model for the response of water-based plates to blast loading.