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**On the origin of a maximum pressure peak on the target outside of the stagnation point upon normal impact of a blunt projectile and with an underwater explosion** ALEXANDER GONOR, Applied Science & Engineering Consulting, IRENE HOOTON, National Defence Headquarters — Impact of a rigid projectile (impactor), against a metal target and a condensed explosive surface, is considered as, the important process accompanying the normal entry of a rigid projectile into a target, was overlooked in the preceding studies. Within the framework of accurate shock wave theory, and the utilization of both Tait's EOS and the relationship, D=C+sU, the flowfield, behind the bow shock wave attached to the perimeter of the adjoined surface, was defined. The maximum values of the peak pressure are 2.2 to 3.2 times higher for the metallic and soft targets (nitromethane, PBX 9502), than peak pressure values at the stagnation point. This effect changes the commonly held notion that the maximum pressure peak is reached at the projectile stagnation point. In the present study the interaction of a spherical decaying blast wave, caused by an underwater explosion, with a piece-wise plane target having corner configurations, is investigated. The numerical results based on Tait's EOS result in the determination of the vulnerable spots on the target where the maximum overpressure peak surpassed that for the head-on shock wave reflection by a factor of 5.

Alexander Gonor
Applied Science & Engineering Consulting

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