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The Shock Wave Profile: Causes and Effects

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Causes of the shock wave profile are well known. So are many of the effects. If there were a symbol and a logo pertaining to shock compression science, it would probably be the shock wave profile. In condensed matter, the shock wave profile assumes many shapes and forms. Metal, rock, ceramic, plastic, and energetic materials all impose their unique properties onto the structure of the shock wave profile. Experimental visualization of the shock wave profile has proved a daunting task. So has interpretation of the underlying physics. Every rise, fall, hesitation and inflection of the shock wave profile has meaning. Some of these features we are beginning to understand. The presentation is centered about the author's efforts to extract physics from the shock wave profile over the past four decades.