there is a change in the amplitude of the shock. While these reflections alter the details of the process, we do not expect them to alter the conclusion; limited numerical experiments bear out this premise. Moreover, violation of the upper limit of Eq. (3) also implies that $(dE/dp)_H < 0$, where E is the internal energy. It is difficult to understand how a shock subject to this condition can attenuate since the internal energy would necessarily go through a maximum as the pressure decreased.

A more general treatment is under investigation; however, we tentatively conclude that a necessary condition for a shock to be stable is that its Hugoniot curve have positive slope in the p-u plane, or, equivalently, that the magnitude of its slope in the p-v plane be greater than that of the Rayleigh line or its mirror reflection about the vertical. Although the consequences of violation of the lower limit are well understood, no such degree of understanding has yet been achieved for the upper limit. It seems likely that it bears an important relation to detonation phenomena.

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