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**The generation of dissipative structures in solids at high pressures** ROGER W. MINICH, Lawrence Livermore National Laboratory, DANIEL ORLIKOWSKI, JEFF H. NGUYEN — The recent ability to tailor pressure drives up to and exceeding a Mbar has led to the ability to study the response of materials along different thermodynamic paths that may be significantly different from a Hugoniot. Observations of recent data suggest that a ramped pressure drive generates coherent structures that behave like solitons in the weakly dissipative limit, but later form kinks which localize the dissipation and coalesce into ever increasing larger kinks in time. The experimental observations are discussed in the context of the KdV-Burgers equation and a universal scaling law is proposed in the limit of high dissipation. This work was performed under the auspices of the U.S. Department of Energy by the University of California Lawrence Livermore National Laboratory under contract W-7405-Eng-48.

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