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Dongming Wei* (dwei@cscamm.umd.edu), 4129 CSIC Building #406, Paint Branch Drive, College Park, MD 20742, and **Eitan Tadmor**. *Critical thresholds in Euler-Poisson equations with pressure.*

We prove that the one-dimensional Euler-Poisson system driven by the Poisson forcing together with the usual γ -law pressure, $\gamma \geq 1$, admits global solutions for a large class of initial data. Thus, the Poisson forcing regularizes the generic finite-time breakdown in the 2×2 p-system. Global regularity is shown to depend on whether or not the initial configuration of the Riemann invariants and density crosses an intrinsic critical threshold. (Received February 10, 2008)