

**Ding, Min**

**Global stability of multi-wave configurations for the compressible non-isentropic Euler system.** (English) [Zbl 07451460](#)

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**Summary:** This paper is contributed to the structural stability of multi-wave configurations to Cauchy problem for the compressible non-isentropic Euler system with adiabatic exponent  $\gamma \in (1, 3]$ . Given some small BV perturbations of the initial state, the author employs a modified wave front tracking method, constructs a new Glimm functional, and proves its monotone decreasing based on the possible local wave interaction estimates, then establishes the global stability of the multi-wave configurations, consisting of a strong 1-shock wave, a strong 2-contact discontinuity, and a strong 3-shock wave, without restrictions on their strengths.

**MSC:**

[35Q31](#) Euler equations

[35L65](#) Hyperbolic conservation laws

[35B35](#) Stability in context of PDEs

[35L45](#) Initial value problems for first-order hyperbolic systems

[35Q31](#) Euler equations

[76N10](#) Existence, uniqueness, and regularity theory for compressible fluids and gas dynamics

**Keywords:**

structural stability; multi-wave configuration; shock; contact discontinuity; compressible non-isentropic Euler system; wave front tracking method

**Full Text:** [DOI](#)

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