

The second act of hydro: shocks and sounds from initial perturbations and jets

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Recently there was significant progress in account for several lower harmonics of the "Little Bang", especially the so called triangular flow, ascribed to fluctuations of the initial conditions. We discuss this problem more generally, combining many harmonics coherently into certain patterns of sound propagation. Analytic solution for all harmonics is found for the so called Gubser flow, with complete Green function obtained. Another source of perturbations which can be studied using our results are waves induced by quenching jets. We argue that for large energy loss shock waves should form, as well as the so called jet/fireball edge, separating unperturbed and excited matter. We discuss how this edge should be visible experimentally, perhaps on an event-by-event basis.

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