Dynamics of expanding gases

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We report on a recent development in the dynamics of expanding gases governed by the three-dimensional compressible Euler system in the vacuum free boundary framework. We discuss global-in-time expanding affine solutions constructed by Sideris, and present the global existence result of non-affine smooth solutions through the stability of Sideris solutions in suitably rescaled variables.

The talk is based on a joint work with Mahir Hadzic.