

Abstract Submitted
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The role of divergences for shock waves FRANCISCO URIBE, Universidad Autónoma Metropolitana — Several continuum theories for shock waves give rise to a set of differential equations in which the analysis of the underlying vector field can be done using the tools of the theory of dynamical systems. We illustrate the importance of the divergences associated with the vector field by considering the ideas by Maxwell and Cattaneo and applied them to study shock waves in dilute gases. Different theoretical descriptions for shock waves are mentioned and some of them are compared with experimental data and computer simulations. Our goal is to derive conditions under which the shock wave problem has a solution by analyzing the singularities of the vector field.

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