



复旦大学数学科学学院
数学综合报告会

报告题目: **Structural conditions for balance laws from continuum mechanics**

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摘要: We consider balance laws from continuum mechanics. They are systems of quasilinear partial differential equations of hyperbolic type or hyperbolic-parabolic type. For each type of general equations we identify the structural conditions that lead to the existence of small solutions global in time. In some cases the conditions also allow us to obtain details in the time asymptotic behavior of solution and/or Green's function estimates of the linearized system. The general results apply to Euler equations with damping, Kerr-Debye model, and the dynamics of real gases with vibrational non-equilibrium as examples.

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