

**Lions, Pierre-Louis**

**Compactness of solutions of compressible isentropic Navier-Stokes equations. (Compacité des solutions des équations de Navier-Stokes compressibles isentropiques.)** (French. Abridged English version) [Zbl 0781.76072](#)  
*C. R. Acad. Sci., Paris, Sér. I* 317, No. 1, 115-120 (1993).

Summary: We present a general result on the compactness of sequence of solutions of compressible, isentropic Navier-Stokes equations. This theorem is the central result allowing to prove the existence of global solutions for these equations. The type of compactness we obtain corresponds to the propagation in time of the  $L^p$  compactness of the density, a fact which is somehow optimal in view of acoustic phenomena or of the propagation of oscillations for such systems of equations.

**MSC:**

**76N10** Existence, uniqueness, and regularity theory for compressible fluids and gas dynamics  
**35Q30** Navier-Stokes equations

Cited in **2** Reviews  
Cited in **16** Documents

**Keywords:**

sequence of solutions; existence of global solutions; acoustic phenomena; propagation of oscillations