

**Abstract.** We discuss the motion of a general compressible, viscous, and heat conducting fluid confined to a bounded cavity that is both mechanically and thermally open. In particular, the total energy/entropy of the fluid depend on the behaviour of “outer” world imposed through the physical boundary. We study the long time behavior of the system, the existence of attracting sets and statistical stationary solutions.

In the introductory talk, Danica Basaric will present some preliminary material concerning the mathematical theory of the open fluid systems