Homogenization of Navier–Stokes–Fourier system in domains with tiny holes

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We consider the compressible Navier–Stokes–Fourier system in a domain with large number of holes. Under the assumption that the holes are sufficiently small, together with certain standard assumptions on the adiabatic exponent and the behaviour of the heat conductivity, we show that if passing simultaneously with the number of holes to infinity and their size to zero, in the limit we obtain again solution to the compressible Navier–Stokes–Fourier system in the domain without holes. The result holds both for the steady and evolutionary problem. The talk is based on a paper with Yong Lu (Nanjing University) and a paper with Emil Skříšovský (Charles University, Prague).