Singular limits of the Navier-Stokes-Fourier system on large domains

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We discuss the problem of singular limits for various dimensionless parameters tending to zero in the full Navier-Stokes-Fourier system posed on "large" spatial domains. Here large means that the boundary of the domain cannot be reached by the acoustic waves in a given time interval. The effect of dispersion on compactness of the velocity field is discussed together with the asymptotic limit.