

The low-density Lorentz gas in a union of lattices

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I will discuss ongoing joint work with Matt Palmer where we describe the Boltzmann-Grad limit of the Lorentz gas for a scatterer configuration which is a general finite union of lattices. Despite the relative simplicity of this situation, it turns out that certain new phenomena appear. The proof involves homogeneous dynamics, and makes use of a general approach to the kinetic theory of the low-density Lorentz gas which we have developed in recent joint work with Jens Marklof.