

Exact summation of the Chapman- Enskog expansion: a primer

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As a warm up for the talk of Henning Struchtrup I will review the work of Gorban and Karlin, *Annals of Physics (Leipzig)*, 2002. This work seems to have been unrecognized in much of the prevailing mathematics literature with the book of Henning being an exception. The advantage of the Gorban-Karlin work is that it quickly gets to many of the issues associated with the Chapman- Enskog expansion with very little of the tedious computations. For analysts it provides a very nice representation of the extra stress in the equations of gas dynamics in the form of a non-local operator.

(The link to the paper is <http://arxiv.org/abs/cond-mat/0504221>).