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Type: **Theory**

Exact solution of the (0+1)-dimensional Boltzmann equation for a massive gas

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We solve the one-dimensional boost-invariant kinetic equation for a relativistic massive system with the collision term treated in the relaxation time approximation. The result is an exact integral equation which can be solved numerically by the method of iteration to arbitrary precision. We compare predictions for the shear and bulk viscosities of a massive system with those obtained from the exact solution. Finally, we compare the time evolution of the bulk pressure obtained from our exact solution with results obtained from the dynamical equations of second-order viscous hydrodynamics.

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Authors: MAKSYMIUK, Ewa (Jan Kochanowski University); STRICKLAND, Michael (Kent State University); RYBLEWSKI, Radoslaw (Institute of Nuclear Physics PAS); FLORKOWSKI, Wojciech (Institute of nuclear Physics, Krakow)

Presenter: MAKSYMIUK, Ewa (Jan Kochanowski University)

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