

Relativistic hydrodynamics with spin

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A new framework for relativistic hydrodynamics with spin is proposed. It is based on the conservation laws for charge, energy, momentum, and angular momentum. The conservation laws lead to hydrodynamic equations for the charge density, local temperature, and fluid velocity, as well as for the polarization tensor. The resulting set of differential equations extend the standard picture of perfect-fluid hydrodynamics with a conserved entropy current in a minimal way.

Primary author: FLORKOWSKI, Wojciech (UJK Kielce / IFJ PAN Krakow)

Co-authors: Prof. JAISWAL, Amaresh (School of Physical Sciences, National Institute of Science Education and Research, HBNI, Jatni, India); Prof. FRIMAN, Bengt (GSI, Darmstadt, Germany); Dr SPERANZA, Enrico (Institute for Theoretical Physics, Goethe University, Frankfurt, Germany)

Presenter: FLORKOWSKI, Wojciech (UJK Kielce / IFJ PAN Krakow)