

Shear viscosity expression for a graphene system in relaxation time approximation

Electrons inside metal never flow like liquid or fluid, but in recent times (after 2018), condensed matter physicists become very surprised by observing experimentally the fluid behavior of electrons inside two-dimensional graphene. A theoretical study on this fluid property of electrons is done by the research group of Dr. Sabyasachi Ghosh (Assistant Professor, Physics Department, IIT Bhilai) with his international PhD students - Mr. Cho Win Aung and Ms. Thandar Zaw Win, who came from Myanmar (Burma) and joined IIT Bhilai in ASEAN-PhD program, and his MSc project student Mr. Gaurav Khandal. They have obtained new mathematical expressions of shear viscosity for electron fluid in the graphene system, which can be found in neither non-relativistic fluid dynamics nor relativistic fluid dynamics, which are well known in scientific literature.

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