

# Effect of Coriolis Force on Electrical Conductivity: A Non-Relativistic Description

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Rotating quarks and hadronic systems, produced in peripheral heavy ion collisions, can experience Coriolis force and other forces due to rotational motion. Considering only the effect of Coriolis force, we have calculated the electrical conductivity for non-relativistic rotating matter using the Relaxation Time Approximation based Boltzmann transport equation. A similarity in mathematical calculations of electrical conductivity at finite rotation and finite magnetic fields is exposed, where an equivalence role between Coriolis force on massive particle's motion and Lorentz force on charged particle's motion is noticed. As the beginning level step, we consider only the Coriolis force in the non-relativistic formalism, which will be extended in the future towards the relativistic case, and to adopt other forces for a more realistic description of the rotating quark and hadronic system.

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