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Type: **Talk**

## **Effect of anisotropic photon polarisation tensor on longitudinal electrical conductivity in neutron star crust**

*Wednesday, 25 August 2021 13:00 (30 minutes)*

We examine the effect of anisotropic photon polarisation tensor in the longitudinal electrical conductivity. We consider strongly quantizing domain of neutron star crust for significant thermodynamic contribution for the calculation of transport coefficient. We solve Boltzmann equation in presence of magnetic field to obtain dissipative component of the conductivity tensor. Electrical conductivity is formulated considering anisotropic photon polarisation tensor with magnetically modified screening. The photon polarization tensor in presence of magnetic field is calculated in the weak coupling regime employing hard dense loop approximation. Evaluation of electrical conductivity receives significant modification due to inclusion of anisotropic polarisation tensor in the formalism.

### **Is this abstract from experiment?**

No

### **Name of experiment and experimental site**

N/A

### **Is the speaker for that presentation defined?**

Yes

### **Details**

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### **Internet talk**

Yes

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**Session Classification:** D Cosmology, Astrophysics, Gravity, Mathematical Physics