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Oscillating magnetothermopower in a Q2D organic conductor[1]
DANICA KRSTOVSKA, Ss. Cyril and Methodius University, Skopje, Macedonia and National High Magnetic Field Lab/FSU, Tallahassee, FL, USA — The beating oscillations of the interlayer thermopower with a large amplitude on both the magnetic field magnitude and an angle between the normal to the Q2D layer plane and the magnetic field are shown to occur when the cyclotron energy is comparable with the interlayer transfer integral. It is found that, in a Q2D organic conductor with a simple slightly warped FS, the amplitude of the quantum oscillations of the interlayer thermopower substantially exceeds the amplitude of its classical part due to the presence of features of the DoS of the charge carriers when their energy spectrum is quantized. The semi-classical Boltzmann theory predicts that the position of the beats in the magnetic oscillations of the interlayer thermopower are shifted with respect of those in the interlayer magnetoresistance. The shift is even bigger with increasing magnetic field. It might be expected that the difference between the beats in the interlayer thermopower and Shubnikov de Haass angular oscillations is not magnetic field dependent. However, experiments will be necessary for more detailed analysis of the magnetothermopower in Q2D organic metals to be made.

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