Local Flattening of the Fermi Surface and Quantum Oscillations in the Magnetoacoustic Response of a Metal GREGORY ZIMBOVSKY, NATALYA ZIMBOVSKAYA, University of Puerto Rico - Humacao — In the present work we theoretically analyze the effect of the Fermi surface local geometry on quantum oscillations in the velocity of an acoustic wave travelling in metal across a strong magnetic field. We show that local flattenings of the Fermi surface could cause significant amplification of quantum oscillations [1]. This occurs due to enhancement of commensurability oscillations modulating the quantum oscillations in the electron density of states on the Fermi surface. The amplification in the quantum oscillations could be revealed at fitting directions of the magnetic field.

[1] N. A. Zimbovskaya, cond-mat/0505301.

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