

Abstract Submitted
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Angular dependence of magnetoacoustic interaction in Sr_2RuO_4 .¹

A. SUSLOV, O. SVITELSKIY, X. ZHANG, J. CROW, D. SHULYATEV², NHMFL, Tallahassee, FL 32310 — For the first time magnetoacoustic phenomena in the ultrasound velocity and attenuation in layered superconductor Sr_2RuO_4 were studied while samples were rotated in magnetic field. The samples were grown at the NHMFL by a floating zone technique. The superconductive transition observed in zero magnetic field at $T_c = 1.2$ K by ac susceptibility and ultrasonic measurements proves the high quality of the single crystals. The measurements were performed in magnetic fields up to 33 T at temperatures down to 45 mK in the ultrasonic frequency range from 30 to 350 MHz. The frequencies of acoustic de Haas - van Alphen oscillations perfectly agree with known structure of the Fermi surface of this crystal. A strong anisotropy of sound attenuation in the normal state has been discovered.

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