

Weekly Seminar

Point-contact spectroscopy: discovery, development and application

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Time: 4:00pm, Oct. 18, 2017 (Wednesday)

2017 10 18 4:00

Venue: Room W563, Physics building, Peking University

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Abstract

Point-contact spectroscopy (PCS) [1], discovered by Prof. Igor Yanson in 1974, plays an important role in the investigation of metallic materials. PCS provides information about the energy resolved interaction of conduction electrons with other quasiparticles in solids, namely, about electron-phonon and electron-magnon interaction, crystal-electric-field excitations, Kondo scattering and so on. It turns out, that the second derivative of current-voltage I(V) characteristics of ballistic (and diffusive) point contacts contains straightforward information as to the electron-phonon interaction (EPI) function ² which is responsible for the many transport properties of metals. On the other hand, EPI is a for electrons to form superconducting Cooper pairs and the knowledge of EPI function ² is of great importance to .0000 T**k**(4(dh)-8(a)4((e)] TETQ0.00000547 0 571.2 817.8 reW*hBTF9 9 Tf1 0 0 1 24292 09.14 Tm0 g0 G[()] TETQ0.000000