

Abstract Submitted
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Reflection of Slow Electrons from Solid Surface¹ ALEXANDER MUSTAFAEV, MATSAK AINOV, St.-Petersburg State Mining University, IGOR KAGANOVICH², Plasma Physics Laboratory Princeton University, VLADIMIR DEMIDOV, WVU USA — Given that progress of future plasma technologies depends on control of electron coefficient reflection r_0 , the development of methods of measurement and control of r_0 is of great importance. Published experimental data on r_0 for slow electrons are inconsistent and sometime give large values up to $r_0 \approx 0,8$ and even higher. This talk presents a technique for r_0 measurements in low pressure plasmas in the presence of transverse magnetic field. It is found that for poly-crystal surface, effective reflection coefficient can really reach value of 0.8. It is demonstrated that it is connected to additional reflection from potential barrier near the surfaces. The contribution of electron reflection from the barrier and the surface has been divided and studied. The data have been confirmed at different mono-crystal surfaces.

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²Principal Research Physicist

Alexander Mustafaev
St.-Petersburg State Mining University

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