

Abstract Submitted  
for the GEC16 Meeting of  
The American Physical Society

**Secondary electron emission in the limit of low incident electron energies** ALEKSANDR MUSTAFAEV, St.Petersburg Mining University, Russia, IGOR KAGANOVICH, Prienceton Plasma Physics Laboratory, USA, VLADIMIR SOUKHOMLINOV, St.Petersburg State University, Russia, ARTIOM GRABOVSKIY, St.Petersburg Mining University, Russia — A detailed review of experimental and theoretical studies of secondary electron emission (SEE) at low incident electron energies has been recently given in paper<sup>1</sup>. In particular, discussion of some authors' statement<sup>2,3</sup> on increase of the SEE yield up to unity if the primary electron energy tends to zero was reviewed. Present paper considers a technique for measurements of SEE yield near a sample surface<sup>4</sup> making use of a magnetic field parallel to the surface. Using this technique it was shown that the SEE yield can approach unity for a polycrystalline, but not for a monocrystalline sample. This result was explained by additional reflection of primary electrons from a potential barrier near the sample surface. Therefore for suppression of the deleterious effects of SEE, e.g, for better performance of accelerators, it is important to monitor and control micro electric-fields arising near a polycrystalline surface. [1] A.N. Andronov. St. Petersburg State Polytechnic. Univ. J. Phys. and Math. Sc. V. 1. P. 67. 2014. [2] R.Cimino et.al., Proceedings of IPAC Dresden, Germany.2014. [3] J. Cazaux, J. Appl. Phys. V.111, . 064903. 2012. [4] A. Mustafaev, I. Kaganovich, et.al. Bull. of the APS. V. 60. No 9. . 40. 2015.

Aleksandr Mustafaev  
St.Petersburg Mining University, Russia

Date submitted: 20 Jul 2016

Electronic form version 1.4