

The analysis of nanoroughnes substrates with use of levitating electron over a superfluid helium film

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The method and tool for researching of substrate nanoroughnes by the analysis of surface electron conductivity over a helium film in function of its thickness. The device contains the chamber for superfluid helium and a measuring cell with substrate horizontally located over measuring electrodes which in a vertical direction moves by means of electromechanical draft. Under mesuared electron transport characteristics, the possibility to identify nanoroughnes from some nanometers (for nonsaturated helium film) to 10^2 nanometers (at the saturated helium film) is demonstrated.