

Abstract Submitted  
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**Plasma parameters of conductors electric explosion by the external electric field near the critical point** YEVGENII RUDNIKOV, Taras Shevchenko National University of Kyiv, VOLODYMYR MARENKOV, Odessa I.I. Mechnikov National University, MYKOLA POTOMKIN, National Academy of Sciences of Ukraine — With a view to modify and control the plasma parameters of conductors electrical explosion near the critical point the application of strong electric fields of thermostat to the reaction volume is used. In this case, the polarizing external field influences on the system critical parameters and electric field strength is a control parameter providing modification of the ionization characteristics of plasma near the critical point. Theoretical model of thermal ionization of plasma products from the metals explosion in the critical region in the presence of an external electric field of thermostat has been developed. The specific features of the liquid metal - vapor phase transition near the critical region and the influence of external field on the local electrochemical potential of plasma electron subsystem and its radiation characteristics have been discussed. Degree of ionization and plasma and power of its braking radiation under external polarizing field have been determined in a wide range of temperatures, concentrations and sizes of submicron metal particles.

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