

Electron string ion sources (ESIS) special electronics development

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The Electron String Ion Source (ESIS) is a type of ion source, which is under development since 1994, when the electron string phenomenon was first observed. ESIS is a sophisticated modification of Electron Beam Ion Source (EBIS) working in a reflex mode of operation under specific conditions, the operation is based on step-by-step ionization

of the ions by hitting with electrons of an electron string.

The ESIS KRION-6T is designed in order to produce the highly charged heavy ions for the NICA/MPD project at JINR.

It is a complex facility consisting of several systems: the superconducting solenoid, the cryogenic and vacuum systems, the electron gun, the electron reflector, the beam drift structure, the locking system etc. To ensure the operation of these systems a special electronics and control systems developed by the engineers of the ESIS group are used. The topic describes details of designed special electronics.

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