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Applied research stations for microchips and radiobiology irradiation with low and high energy ion beams of NICA accelerator complex

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Within the framework of NICA project an Innovation block based on three applied research stations is being constructed. The applied research station for microchips with package for radiation resistance testing (with the energy range of 150-350 MeV/n.); the applied research station for decapsulated microchips testing (with energy of ions up to 3.2 MeV/n.); the applied station for radiobiological research (with the energy range of 400-800 MeV/n.) with an absorbed dose of 3 Gy maximum are being constructed. The paper contains the design of applied stations, simulations, description of diagnostics and positioning systems, temperature setting system and etc. Diagnostics systems are designed to measure such beam parameters as: intensity, beam profile, fluence, ion flux density and absorbed dose for radiobiological station. The calculations for microchips irradiation with low and high energy ion beams are presented.

Primary author: SLIVIN, Alexey (JINR)

Co-authors: Mr FILATOV, Georgy; SYRESIN, Evgeny (Joint Institute for Nuclear Researches); Mr BUTENKO, Andrey; Mr TUZIKOV, Alexey

Presenter: SLIVIN, Alexey (JINR)

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