

## **Review**

### **project**

#### ***Design and development of a test zone for methodical studies of detectors at a linear electron accelerator in the DLNP.***

The project is dedicated to the creation and development of scientific infrastructure for experimental studies with accelerated electron beams of the LINAC-200 linear accelerator.

Accelerated electrons Beams are a popular tool for testing various detectors, as well as for creating beams of secondary particles and radiation. The LINAC-200 accelerator has a number of unique characteristics, such as smooth adjustment of the beam energy from 10 to 200 MeV with an energy spread of 1%, a wide range of intensities up to  $10^{13}$  particles/s .

It is also possible to obtain a focused beam (about 1 mm) and defocused beam (about 50 mm and more). Two beam extraction channels have been created: with energies from 10 to 25 MeV and the other channel with energies of 40-200 MeV.

The two channel of LINAC-200 will be for testing equipment and for other applied and educational purposes, it is necessary to have electron beam with all diagnostic for monitoring the beam parameters, as well as all the necessary equipment to deal with target control and data analyses with target . All these needs to taken into account in the

project under consideration. Attractive is that the electron accelerator is much less expensive than the accelerator for the production of relativistic nuclei, from all points of view: energy, relative ease of maintenance, etc. Testing and calibration of new types of detectors created for modern installations in the field of relativistic nuclear physics must be carried out before they are put into operation. In addition, it was demonstrated that LINAC-200 beams can be used to study the generation of GHz and THz transition radiation. Work in the pre-commissioning mode in 2021-2022 showed a high demand for this accelerator both for JINR scientific groups and other organizations in Russia and abroad. Thus, researchers from RFNC-VNIIEF (Sarov), TPU (Tomsk), BelSU (Belgorod), CTEPP (Santiago, Chile), FIAN (Moscow), and others took part in the work. LINAC-200. Thus, the creation of a specialized test area for methodological research is extremely important. The presented project is adequate to the formulated tasks and deserves approval.

A.A. Baldin

Translation: Abdelshakur El Said Mohammed Abu Elazm

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