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## **Multichannel system for measuring the phase of acceleration and other parameters of beams in a cyclotron**

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Diagnostics of charged particle beams is an important area in the field of accelerator technology. Non-destructive methods of beam diagnostics are becoming increasingly popular, as they allow measurements to be taken without changing the beam parameters. This is particularly valuable when studying continuous processes, the results of which can be distorted when using traditional diagnostic methods.

Pickup electrodes are devices used for non-destructive diagnostics of charged particle beams. They are thin metal plates located along the axis of the beam motion. When a particle beam passes near a pickup electrode, it creates an electrical signal that is proportional to the beam current. This signal can be processed and analyzed using special equipment and software.

A multichannel modular system with expandability has been developed to measure particle acceleration parameters, specifically the phase distribution during movement in the accelerator chamber, coordinates relative to the median plane and other parameters. The paper presents the results of testing the system at the DC-280 cyclotron at FLNR JINR and SSC at IThemba LABS.

### **Footnotes**

### **Paper preparation format**

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