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SETUP AND OPTIMIZATION OF THE WAVEGUIDE CHANNEL FOR THE SKIF PROJECT LINEAR ACCELERATOR INJECTOR STAND

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The project "Siberian Ring Photon Source"(SKIF) is under development. This source of 4+ generation synchrotron radiation will allow for research in various fields of science. SKIF project consists of a synchrotron, a storage ring and a linear accelerator. The linear accelerator is designed for an energy of 200 MeV. In the ring of the storage ring, electron beams gain the energy of 3 GeV necessary for the operation of the synchrotron. The linear accelerator of the SKIF project consists of five regular accelerating structures, a pre-accelerator-buncher, an electron source, a magnetic system, as well as a waveguide microwave path necessary to deliver power (50 MW) from the klystron to the accelerating structures. The operating frequency of the klystron is 2.856 GHz. This article describes the operation, measurements and adjustment of waveguide path elements from the first klystron, which is currently operating in conjunction with the initial part of the accelerator at the BINP SB RAS.

Primary author: SMIRNOV, Kirill (Budker INP SB RAS, Novosibirsk State Technical, University)

Co-authors: LEVICHEV, Alexey (Budker Institute of Nuclear Physics); SAMOYLOV, Sergey (Budker Institute of Nuclear Physics)

Presenter: SMIRNOV, Kirill (Budker INP SB RAS, Novosibirsk State Technical, University)

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