

4th GENERATION SYNCHROTRON RADIATION FACILITY SKIF: PROJECT DETAILS AND CURRENT STATUS *

V.I. BUKHTIYAROV¹, E.B. LEVICHEV^{1,2}

¹*Boreshkov Institute of Catalysis SB RAS, Novosibirsk, Russia*

²*Boreshkov Institute of Catalysis SB RAS, Koltsovo, Russia*

Synchrotron Radiation Facility SKIF is a new large-scale research infrastructure project currently underway in the Science City Koltsovo, 15 km apart from Novosibirsk. The 3 GeV electron storage ring designed by specialists from the Budker Institute of Nuclear Physics SB RAS will provide the record low emittance of 75 pm•rad by the date of scheduled commissioning in December, 2024.

The SRF SKIF will become a national-level multidisciplinary research and innovative center. Key directions of the scientific program to be deployed at the SRF SKIF will encompass biomedicine, green technologies in chemistry and energetics, advanced engineering materials and mechanical engineering technologies.

Presently, accelerator equipment is under production within two state contracts concluded between the Boreshkov Institute of Catalysis SB RAS and the Budker Institute of Nuclear Physics SB RAS. The Titan2 Holding is responsible for the large-scale construction works on-site. The total budget of the project exceeds 47 billion Russian rubles.

The aerial view of the construction site as of summer 2022 is shown in Fig. 1. More than 30 specialized buildings with advanced engineering infrastructure will appear within several months.



Fig.1. Construction site of the Synchrotron Radiation Facility SKIF (as of summer 2022).

The present contribution gives a concise survey on technological parameters of the project and its potential scientific impact in the future. More information on the SRF SKIF project may be found elsewhere [1].

REFERENCES

- [1] *Tekhnologicheskaya infrastruktura Sibirskogo Koltsevogo Istochnika Fotonov SKIF*, K.I. Shefer Ed., Novosibirsk: Boreshkov Institute of Catalysis, 2022, 999 pages, ISBN 978-5-906376-40-4. Electronic resource [https:// disk.yandex.ru/d/1SBhHph2rgbeBg](https://disk.yandex.ru/d/1SBhHph2rgbeBg) [Technological Infrastructure of SRF SKIF, In russian].

* The work was supported by the Russian Ministry of Science and Higher Education of the Russian Federation within the Budget project for the Synchrotron Radiation Facility SKIF, Boreshkov Institute of Catalysis SB RAS.