STATUS OF MANUFACTURING AND DESIGNING activities of DIAGNOSTIC EQUIPMENT FOR THE ITER INSTALLATION AT BINP SB RAS [[1]](#footnote-1)\*)

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The Budker Institute of Nuclear Physics has been carrying out design work on diagnostic equipment for the ITER installation since 2013. The list of equipment under development includes: design and integration of upper diagnostic ports ## 02, 07, 08, equatorial diagnostic port #11 as the main supplier, as well as in the form of a manufacturer and developer of a part of the system in diagnostics: vertical neutron chamber (upper and lower), divertor neutron flux monitor, neutral particle analyzer (in-vessel part).

During this period, the final project was successfully defended for the integration of the equatorial port #11, the divertor neutron flux monitor and in-vessel part of the neutral particle analyzer. These projects are currently in the pre-production or production stage. In particular, in 2021, collimation modules for an neutral particle analyzer were manufactured, and work began on the manufacture of in-port components for equatorial port #11. Before the start of production operations, the BINP team did a great work on the preparation of documentation describing the upcoming production processes, incl. planning and qualification of the "gun drilling" operation, without which it is impossible to manufacture a cooling system for diagnostic protection modules. At the moment, an active preparation of documentation on the qualification of welding processes and non-destructive testing processes for the defending of the second stage of production is underway.

At the same time, for the rest of the projects listed above, the defense of preliminary projects was successfully carried out and active design work is underway on the final projects.

The experience gained by the INP team during the preproduction process can be extremely useful to other groups working on the design and manufacture of diagnostic equipment for the ITER installation.

1. \*) [abstracts of this report in Russian](http://www.fpl.gpi.ru/Zvenigorod/XLIX/E/ru/IA-Ivantsivskii.docx) [↑](#footnote-ref-1)