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## **STATUS OF CONTROL AND DATA ACQUISITION SYSTEMS DEVELOPMENT FOR THE ITER PROJECT IN 2023 <sup>\*)</sup>**

Nagornyi N.V., Portone S.S., Mironov A.Yu., Mironova E.Yu., Guzhev D.I., Nikolaev A.I.,  
Nesterenko V.M., Avdushkin D.A., Mikhalev I.M., Arbutova T.V., Semenov O.I.,  
Semenov I.B.

*Institution «Project Center ITER», [support@iterrf.ru](mailto:support@iterrf.ru)*

The diagnostic complex of the designed ITER facility will include many measuring systems, each of which will require a high-performance data acquisition and processing system. Despite the differences in the principles for performing measurements by diagnostic systems, all data acquisition and processing systems have common goals - storing the information obtained using detectors in full and with the required accuracy, as well as performing stream processing of experimental data. Obtaining calculated (measuring) parameters and providing feedback on the state of the plasma for the central control system of the facility.

Most of the data acquisition and processing systems being developed in our country for the diagnostic complex of the ITER facility are approaching the stage of final technical projects in the ITER International Organization, or have already passed this stage and are being prepared for production. Work on the final design of systems is associated not only with the tasks of creating appropriate specialized documentation, but also with extensive work on mockups and prototyping of data acquisition and control systems and their individual components, to confirm the performance and technical characteristics of the previously designed solutions. Also, the software that runs on system industrial computers and performs the tasks of integrating diagnostic I&C equipment and obtaining data, as well as final calculations, data packaging, buffering and data transmission (taking into account the specifics of interaction with the data storage system of the ITER installation) is being actively developed.

This paper presents an overview of the results of work on data collection and processing systems at the ITER Project Center and related organizations.

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