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STATUS OF WORK ON THE INTEGRATION OF LOWER PORT #08 *)

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The tasks of integrating the equipment of the ITER diagnostic ports include ensuring the placement, operation, and maintenance of diagnostic systems, providing neutron shielding and structural integrity of support structures, ensuring the tightness of vacuum equipment, and resistance to thermal, seismic, and electromagnetic loads.

The main in-vessel and ex-vessel support structures have been developed to house the DTS (Divertor Thomson Scattering) diagnostics and EDM (Erosion Deposition Monitor), as well as neutron shielding structures and elements for transportation, installation, and fixation in Lower Port #08.

In 2024, for the integration of Lower Port #08, the ISS (Interspace Support Structure) and PCSS (Port Cell Support Structure) support structures mock-ups were developed. Also, based on the results of 2023 tests, transportation and fixation elements on the divertor rails were modified. Preliminary factory test programs were developed for in-vessel and ex-vessel structures. Fixation and transportation elements were tested under thermal loads in accordance with operational conditions of the ITER tokamak. Procedures for loading and installing support structures for testing at the integration site of the Ioffe Institute were also prepared.

The documentation package preparation for the Final Design Review (FDR) of the in-vessel and ex-vessel structures is planned. The test equipment commissioning at the integration site for testing mock-ups and prototypes of support structures for the DTS diagnostics components at the Ioffe Institute is scheduled.

*) abstracts of this report in Russian