ITER TYPICAL OPTICAL DIAGNOSTIC SYSTEM AS OBJECT of CONTROL [[1]](#footnote-1)\*)

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The I&C system of the ITER facility is divided into two control levels - the central system and the lower local control level, which consists of more than 130 technological and diagnostic subsystems. Conducting detailed checks for compliance with the requirements of an international project is an important task for suppliers of technological and diagnostic systems.

The ITER diagnostic systems are subdivided into seven main groups: magnetic, neutron, bolometric, optical, spectrometric and microwave diagnostics and operating systems. Each group includes diagnostics with similar physical principles of measurement and control, but located on different lines of plasma observation, which imposes specific requirements on the organization of the system components, as well as on the measured plasma parameters.

Optical diagnostics of ITER have specific organization of the optical path, in most cases completed by a digital camera of specialized scientific design, and also require the organization of a number of additional functions: alignment of optical elements, a mirror cleaning system, control of the protective shutter, calibration of the optical and measuring channel.

These functions are typical for optical and some other ITER diagnostics, which indicates the possibility of reducing costs during their implementation, especially in terms of the control system. In turn, the complex that implements this functionality can be presented in the form of a software and hardware architecture, which is the result of this work.

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