

## Integrated software environment

### for numerical modeling of experiments on tokamaks

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Nowadays, several hundred of numerical codes have been created and successfully operated within the framework of research program of Controlled Fusion, simulating all the most important processes in the plasma. The most important problem today is the creation of an integrated software environment on their basis capable of designing of Tokamak installations and supporting of experiments on them.

The creation of such an environment implies the development of software that is equally convenient for calculators, experimenters and engineers. The development of such software includes the construction of developed informational and computational portals that allow using locally stored numerical codes and simulation systems remotely via a standard Web-browser. Recently appeared Web-programming systems, Internet technologies and new computer protocols provide the necessary basic tools for creating such informational-computational portals.

We've developed a new open access computing resource *nfusion.cs.msu.ru*, which includes modules for calculating the equilibrium, vertical stability, evolution and transport of plasma, as well as simulation systems for magnetic plasma diagnostics [1-5]. These modules are integrated into a unified software environment that allows the numerical support on tokamak installations. The resource allows you to access the calculation modules stored on the server via the Internet, perform an automated data exchange between the modules, and print out the results of calculations in the form of files, pictures, graphs and tables. The resource supports the work of several users located in different places simultaneously and has a system of information support in two languages (Russian, English).

This work was carried out with the support from the RFBR (grants No. 17-07-00544-a, 17-07-00883-a).

#### References

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