

# Development Of Predictive Simulator To Model Electromagnetic Transients For ITER Application

*A.B Alexeev, V.M. Amoskov, A.M. Bazarov, A.V. Belov, V.A. Belyakov, O.G. Filatov, E.I. Gaponok,  
Yu.V. Gribov, V.P. Kukhtin, E.A. Lamzin, S.E. Sychevsky*

The use of dynamic simulators providing high speed and reliability gives an opportunity to efficiently correlate a large number of parameters on various scenarios and provide general consistency of the reactor. A separate simulator should be responsible for modelling electromagnetic (EM) response of the reactor. A promising solution is to use parallel computations.

The developed simulation tool potentially can serve as a core for an EM simulator of the ITER conducting structures. Test runs of the software demonstrated its high efficiency and possibility of real-time computations . As a result, this enables rapid extensive simulations for numerous operational scenarios to provide comprehensive and highly reliable predictions.