Development Of Predictive Simulator To Model Electromagnetic Transients For ITER Application


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.