

The performance improvement of available power transfer capability analysis with transient stability constraints for stability margins monitoring system.

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A number of ways to improve the performance of available power transfer capability analysis with transient stability constraints for stability margins monitoring system were proposed, in particular: power system model equivalencing, electromechanical transients analysis using implicit integration methods, parallel computing of transients for various initial modes and emergency scenarios and initial data preparation optimization for transients calculations. A performance assessment of separate and joint use of these techniques was carried out.

Key words: stability boundary, power transfer capability, electromechanical transients, transient stability, equivalencing, implicit integration methods, parallel computing.