A Modelica Power System Component Library for Model Validation and Parameter Identification

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Abstract

This paper summarizes the work performed in one of the work-package of the FP7 ***i****Tesla* project. This work consisted in the development of a power system component library for phasor time domain simulation in Modelica.

The models were used to build power system network models, used in experiments for parameter identification. The experiments were carried out with the RAPID toolbox, which has been developed at SmarTS Lab within the same project. The toolbox was written in MATLAB, making use of FMI Technologies for interacting with Modelica models.

Keywords: Power Systems, Phasor Simulation, Modelica, FMI, Parameter Identification, Model Validation.