DTU PMU Laboratory Development - Testing and Validation

This is a report of the results of phasor measurement unit (PMU) laboratory development and testing done at the Centre for Electric Technology (CET), Technical University of Denmark (DTU). Analysis of the PMU performance first required the development of tools to convert the DTU PMU data into IEEE standard, and the validation is done for the DTU-PMU via a validated commercial PMU. The commercial PMU has been tested from the authors' previous efforts, where the response can be expected to follow known patterns and provide confirmation about the test system to confirm the design and settings. In a nutshell, having 2 PMUs that observe same signals provides validation of the operation and flags questionable results with more certainty. Moreover, the performance and accuracy of the DTU-PMU is tested acquiring good and precise results, when compared with a commercial phasor measurement device, PMU-1.

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