

PLL for Grid Synchronization and Power Control

Special Topics

On this document it is intended to mention the topics that will be object of study in the scope of the special topics course under the doctoral program in electrical engineering and computers.

Object of Study

This work intends to continue the study started on a previous course (work with supervisor) under the same doctoral program. On this course the study about the PLL technology for grid synchronization will be continued exploring more topologies and improving the ones already explored. Furthermore it will be studied how the PLL can not only synchronize but also characterize the three phase utility in terms of voltages, phases and power factor. The resulting study should led to an efficient PLL structure validated through experimental setup.

Milestones

The milestones to be completed on this study are:

1. Continue the study on the PLL topologies for utility phases synchronization;
2. Validate methods through simulation;
3. Validate through experimental setup;
4. Final report.

Deadlines

Task	Deadline
1.	22nd April
2.	6th May
3.	3rd June
4.	

Evaluation

The evaluation is distributed accordingly with the following table. The missing points will be given judging the student autonomy and dedication to the work.

Task	Weights
1.	2.5/20
2.	5/20
3.	5/20
4.	5/20

Proponent: Jorge Miguel Santos Pinto
Supervisor: Prof. Adriano da Silva Carvalho
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