



# Decentralized Coordinated Control of Photovoltaic Power Inverters in a Residential Microgrid

Master Thesis

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Our Control and Power Electronics groups perform cutting-edge research in advanced control and estimation for electromechanical systems, power converters and energy systems. We are offering a master thesis project in collaboration with the ETH Automatic Control laboratory. The project provides the opportunity of working on real-world projects in an international team of innovative scientists.

You will be able to gain experience in control engineering, working in a motivating and creative research environment. We expect you to execute challenging project tasks independently but under competent supervision.

Your tasks: Investigate and implement decentralized control methods to achieve coordinated active power curtailment of the PV inverters in residential applications for overvoltage prevention. This includes: read research papers, implement controller methods on a Matlab Simulink environment. Write a report and possibly papers on the achieved results.

The requirements: currently pursuing a degree in electrical engineering or a similar subject with completion of at least 4 semesters; official enrollment is essential; good control knowledge (state-space) and signal processing proficiency in Matlab and Simulink; basic understanding of circuit theory would be beneficial; proficiency in English, spoken and written (working language); quick learner with the motivation to try out cutting-edge technology; ability to think conceptually and express ideas clearly and convincingly.

If you have further questions, please do not hesitate to contact

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