

Large Scale Application of the Conic Optimal Power Flow

A master thesis proposal in EMReG

In this project the master student is expected to have good background on optimal power flow problem. The conic optimal power flow has been recently developed in the Electricity Market Research Group (EMReG) at KTH. The new formulation has a convex form and can be solved efficiently using the available software packages. The developed conic optimal power flow is coded in GAMS platform and solved using the Mosek solver.

The aim of this master thesis is to do a full study of the developed conic optimal power flow. The student is expected to run the conventional optimal power flow in PSSE and Matpower softwares.

A comparative study should be carried out between the Matpower OPF, PSSE OPF, and conic OPF.

The master thesis work will be carried out in the Electricity Market Research Group (EMReG). The student will be supervised by PhD student M. Baradar (EMReG member) and examined by Assistant Professor M. Hesamzadeh (EMReG leader).

Interested applicants can refer to www.hesamzadeh.com for more information regarding activities in EMReG.