

# Modeling and Parameter Estimation for Power Generating Kites

B. Houska

*K.U. Leuven, Optimization in Engineering Center (OPTEC),*    `boris.houska@gmx.de`

The aim of this talk is a report of the ongoing modeling, estimation, and optimal control studies for Power Generating Kite System. The main idea of power generation with kites is that they can periodically pull a generator at the ground while flying fast in a crosswind direction. The University of Delft is actually building kite prototypes that are connected to a groundstation. Based on GPS- position measurements the task is to find model parameters like the lift or drag coefficient of the kite. This is especially challenging as we have uncertain wind turbulences that can hardly be measured. Finally, we also discuss strategies to improve the measurements based on optimum experimental design methods.