

MAGDEBURG LECTURES ON OPTIMIZATION AND CONTROL

Vortrag: Prof. Dr. Alexander Martin



Techniques from Mixed Integer Linear Programming to solve Mixed Integer Nonlinear Programs

Prof. Alexander Martin
Universität Erlangen-Nürnberg

Time & Place

The presentation on April 10, 2014 will be given at the Otto-von-Guericke-Universität Magdeburg, Universitätsplatz 2, building 2 - room 111 and starts at 5.30 p.m.

Abstract

Mixed integer nonlinear programs are currently in the focus of mathematical optimization. The sizes of problems that are actually solvable, however, are still low compared to those solvable when only linear inequalities are involved. We propose a discretization technique to approximate the nonlinear functions by linear ones in an iterative way to meet some given tolerance. This way we are able to apply MIP solution techniques. We will demonstrate the success of this approach on a particular class of applications resulting from gas network optimization.