Vortragsankündigung

Seminar Regelungssysteme LV 0430L654

Montag, 27. Oktober 2014, 16:00 Uhr
Vortragsort: EN 223

Prof. Jan Maciejowski
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“Real-Time Optimisation-Based Planning and Scheduling of Aircraft Trajectories”

Optimal planning and scheduling of trajectories for vehicles such as aircraft, road vehicles, or trains, generally involves non-convex optimization. Such problems are frequently regarded as intractable. But we show that it is effective to tackle such problems using stochastic optimization methods, even for real-time use, as in model predictive control. We use Sequential Monte Carlo (‘particle filter’) methods, implemented on Graphical Processor Units which allow massive parallelization. We describe the application of these methods to the problem of air-traffic management in a high-density vicinity of an airport (the ‘terminal manoeuvring area’).