Real Time Control of a Quadcopter

Simon Kick, Philipp Fröhlich, Benedikt König, Annika Stegie

Technische Universität München

11 July 2015

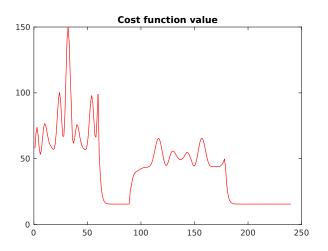


Figure: unser erster toller Plot

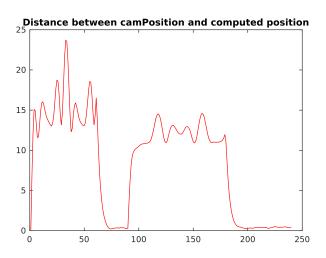


Figure: unser erster toller Plot

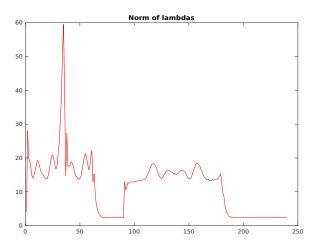


Figure: unser erster toller Plot

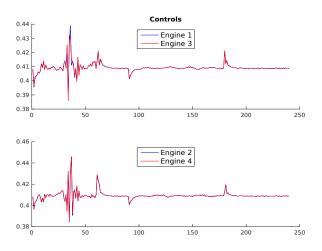


Figure: unser erster toller Plot

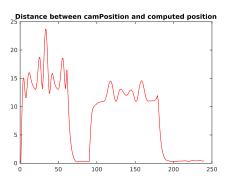


Figure: unser erster toller Plot

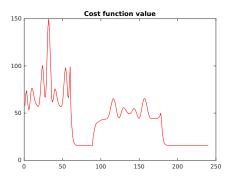


Figure: unser erster toller Plot

References I

Stephen Boyd.
Solving the lqr problem by block elimination.
Lecture notes, 2009.

James Diebel. Representing attitude: Euler angles, unit quaternions, and rotation vectors.
10, 2006.

Moritz Diehl, Hans Georg Bock, and Johannes P. Schlöder. A real-time iteration scheme for nonlinear optimization in optimal feedback control.

SIAM J. Control Optim., 2005.

References II

- Moritz Diehl, Bock H. Georg, Johannes P. Schlöder, Rolf Findeisen, Zoltan Nagy, and Frank Allgöwer.
 Real-time optimization and nonlinear model predictive control of processes governed by differential-algebraic equations.

 Journal of Process Control, 2002.
 - Moritz Mathias Diehl.

 Real-Time Optimization for Large Scale Nonlinear Processes.

 PhD thesis, Ruprecht-Karls-Universität Heidelberg, 2001.
- Luis Rodolfo Garcia Carrillo, Alejandro Enrique Dzul Lopez, Rogelio Lozano, and Claude Pegard.

 Quad Rotorcraft Control.

 Springer-Verlag London, 2013.