Readme

May 25, 2011

Explanation of the files attached to this master thesis.

The files are divided into two folders. The folder "AVR" contains the C-code for implementation on the prototype, whereas the folder "Matlab" contains the MATLAB files used. All files are commented. In MATLAB it is possible to write "help 'filename"' in the console.

Short description of the files:

- sparkfunX.txt - Sensordata from a sparkfun IMU. Used for comparing the methods with the same dataset in MATLAB.
- data_read2.m - Reads data from sparkfun.txt into MATLAB
- spark_Kalman_Equest.m - runs both methods with the data from sparkfun.txt.
- read_spark.m - Liveplot of the attitude from the sparkfun IMU. Drawing of 3D cube.
- qua_to_euler.m - Converting quaternions to euler-angles
- optimal_lambda.m - Calculating the solution of EQUEST. (part of EQUEST algorithm)
- microplot.m - Plotting attitude sent to MATLAB from prototype as a 3D cube.
- liveplotKALQUEST.m - Creating a Roll-pitch-yaw plot of both methods.
- lin_pre.m - Calculating the linear prediction term in EQUEST.