Sensor Fusion, TSRT14

Orientation Estimation using Smartphone Sensors
Data Description

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1 Usage

This archive contains four log files collected with the Sensor Fusion app using the log to file feature. The datasets represent different types of motions and disturbances. These log files can be fed as the first argument to the filter template:

```
[xhat, meas] = filterTemplate('logfile.txt');
```

This will force the matlab script to use the provided `logfile.txt` as source of measurements rather than trying to stream data from the Sensor Fusion app. This functionality can be used if you do not have access to a suitable android device, or as reference when debugging your code.

2 Dataset

The provided datasets contain data relevant for the different steps performed in the lab.

calibration.txt Measurements from a phone laying flat on a (reasonably) horizontal table. This can be used to find sensor biases.

rotation.txt Measurements from a phone first rotated around the z-axis, then around the x-axis, and finally around the y-axis. The phone is kept fairly steady and is kept away from external magnetic sources.

accdisturbance.txt Measurements from a phone placed on a table and then moved back and forth violently to introduce large accelerations in the measurements.

magdisturbance.txt Measurements from a phone first rotated once in a magnetically undisturbed region, then moved to a position with an external magnetic disturbance, and then moved back to the undisturbed region again, before it is finally rotated once more.