Sampling time:
The Tekkotsu API source code was modified to provide the Tekkotsu program with the rest of the data the AIBO robot samples. In the Tekkotsu API source code interfacing with the robot, every 32ms ($f_s = 31.25Hz$) there should be a new sensor event. However, the robot system sends 4 samples within each update, so the sensor temporal resolution is actually 8ms ($f_s = 125Hz$). Only the last of these 4 samples is handled by the Tekkotsu API.

Up-right gait:
An up-right gait was defined by regulating the gait parameters in Tekkotsu. Measurements on the floor and the carpet was done and analysed in Matlab.

Non-uniformly sampled data:
The data was found to be non-uniformly sampled and thus the methods of Stoica was applied to the data. Although the data is non-uniformly sampled it is only in very few instants that irregularity appears. Stoicas method was compared to a regular periodogram assuming regular sampling times. Using only very few iterations and a short data sequence the result is not the same. The code provided by Stocia is not very efficient when we try data of greater length and with better accuracy. So we are unable to say anything about the results in this case. Still we want to carry out some experiments with this method but it looks like we’re just going to assume that the data is regulary sampled and use well known methods of spectral analysis to analyze our data.

PID parameter regulation:
To find at what instances to regulate the PID parameters a plot of the angles of the legs together with the accelerometer in z direction was made. We have started to carry out experiments where we only regulate the P parameter.