Classifier specific features

Based on the experimental results described int the GAD report in section 3, I noticed that different sets of features were fed to different classifiers; some correspond to the parameters I am currenly extracting, others are the mean and/or standard deviation of some of the parameters. These can easily be computed incrementally as data is being read and my next goal is to implement these calculations. Since the plan of my project is to implement first of all a J48 classifier, I will first focus on the features needed by these classifiers.

Generic attack detection

The GAD report mentions two J48 classifiers which have achieved good results in generic attack detection. One uses 16 features, the other uses 6:

J48 16	**J48 6**	implementation
min Doppler	y	TODO
σ Doppler	y	TODO
min valid satellites	y	TODO
min pseudorange	y	TODO
min signal over noise	y	TODO
σ valid satellites	y	TODO
σ signal over noise		TODO
σ pseudorange		TODO
max n. satellites changed		TODO
avg. valid satellites		TODO
avg. pseudorange		TODO
avg. Doppler		TODO
max signal over noise		TODO
max carrier phase		TODO
avg signal over noise		TODO

Per attack detection

T2 Attack: no J48 mentioned

T2 Attack (Static Overpowered/Matched Power Time Push, scenarios 2,3,7,8)

J48 with 3 features

- max signal over noise: TODO
- avg. Doppler: TODO
- max carrier phase: TODO

T3 Attack (Static Matched Power Position Push, scenario 4)

J48 with three features

- max valid satellites: TODO
- min height from real pos.: TODO
- max amplitude of raw signal: TODO