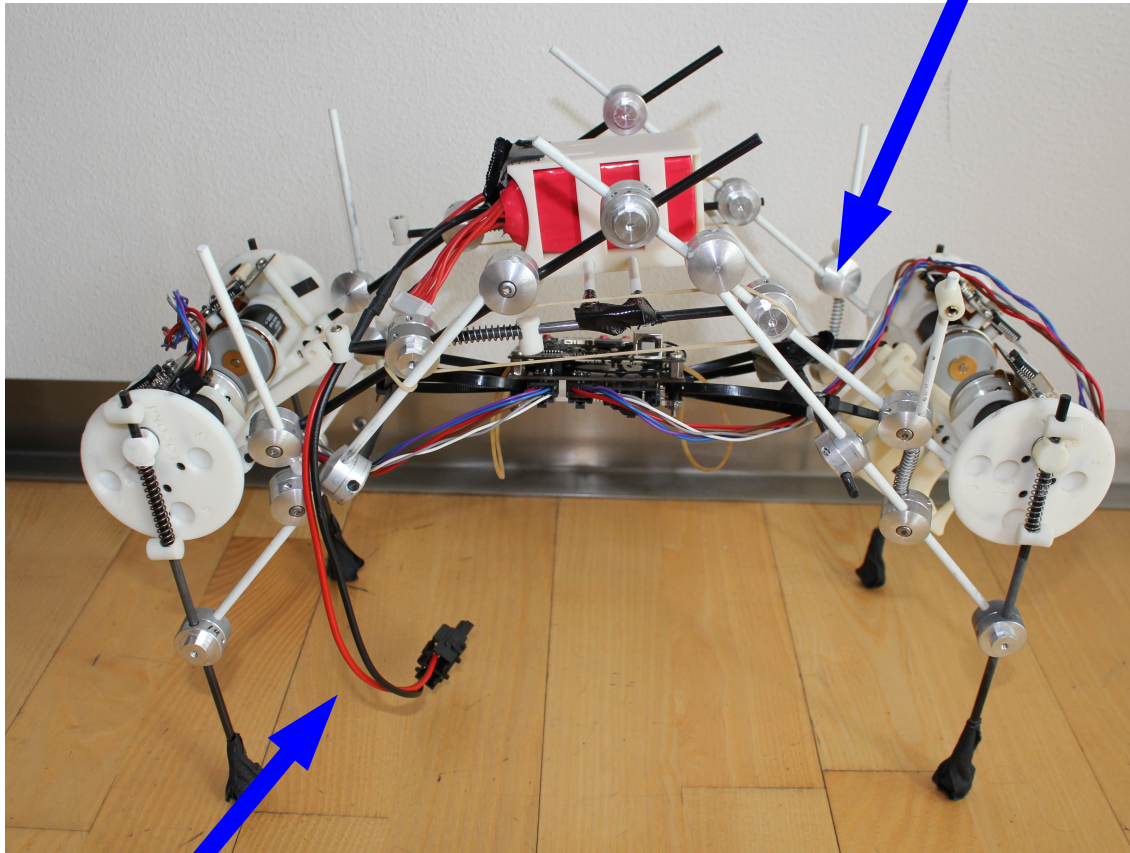


“Spined” Springy Bot



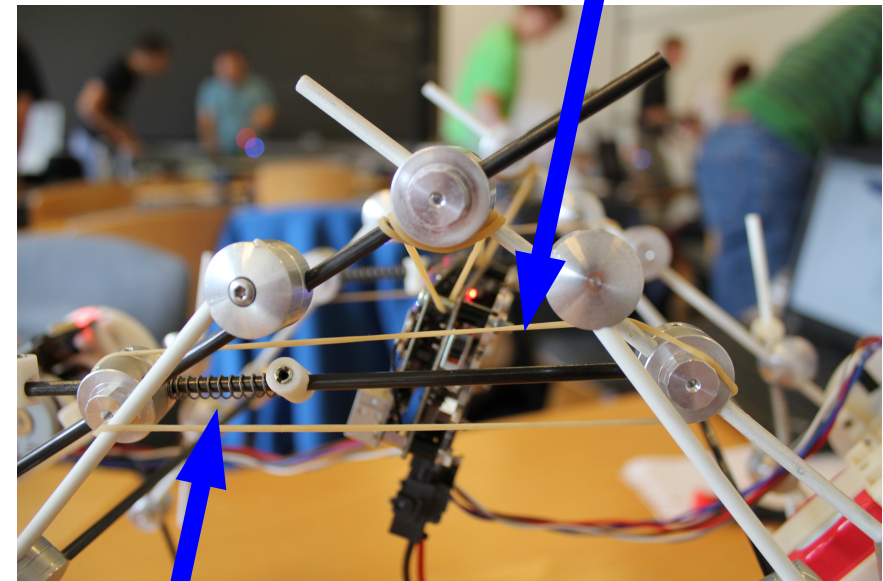
**Geert Folkertsma
Louise Poubel
Susanne Stadler**

1. The robot



Elastic spine

Springy bot legs



Elastic bands

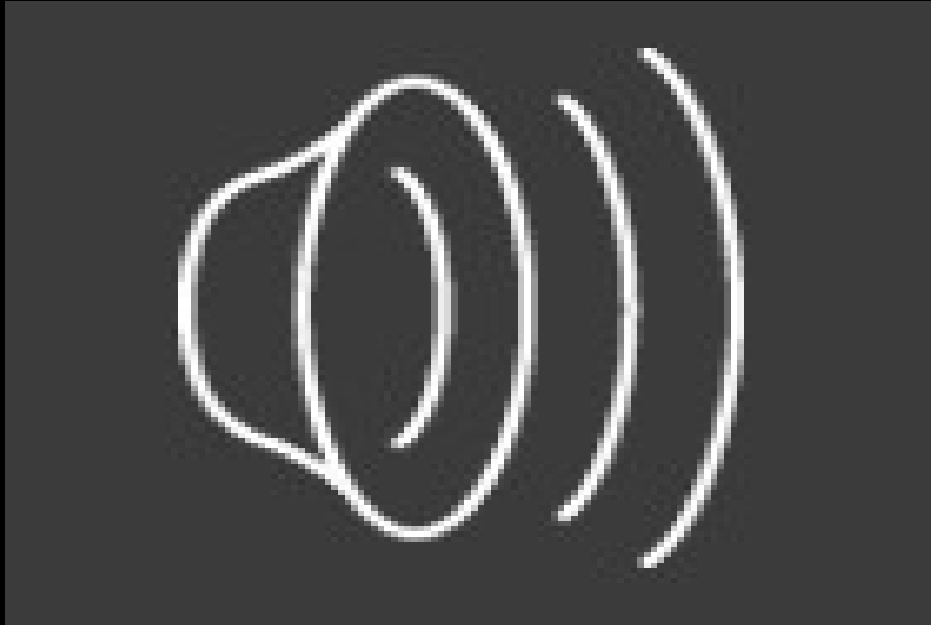
Springs

2. Movement

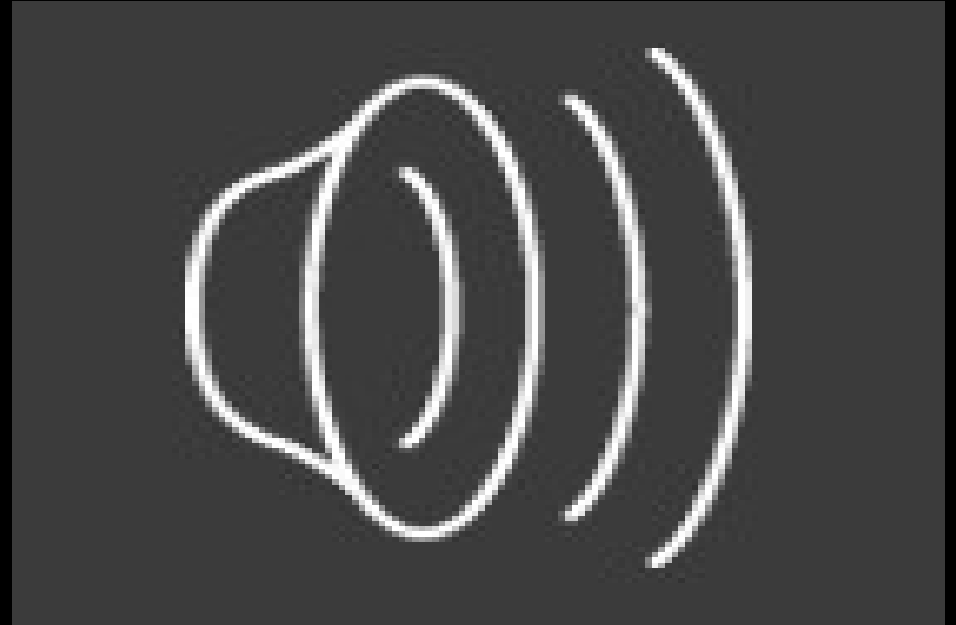


3. Parameters

- Spring stiffness (weak / strong / rigid spine)
- Center of mass
 - PCB (fixed / loose)
 - Battery (hip / center / off-bot)



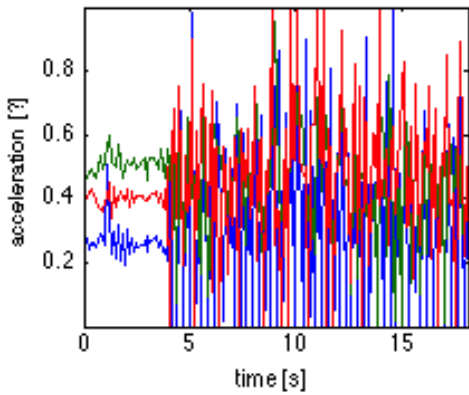
Fixed spine



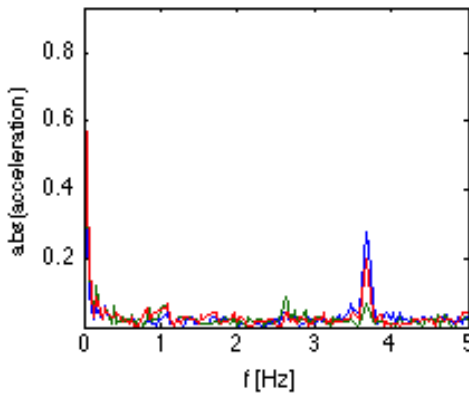
Elastic spine

4. Results

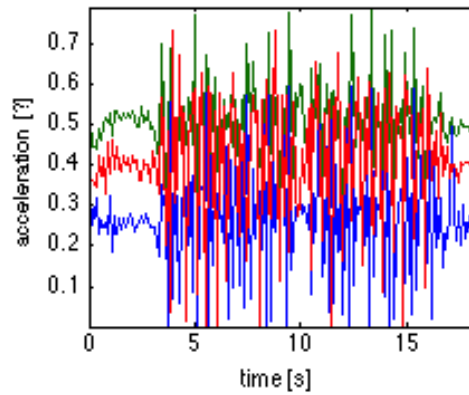
Run 1: 2ndSetup/1strun0.3/sensors_log.txt



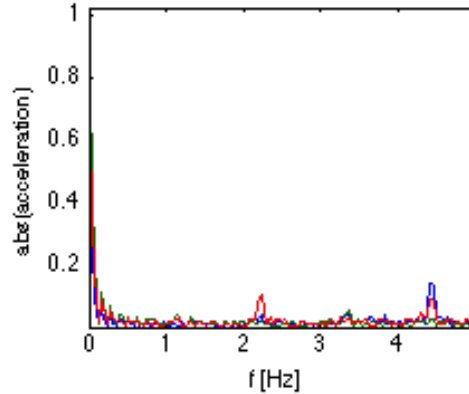
FFT of above



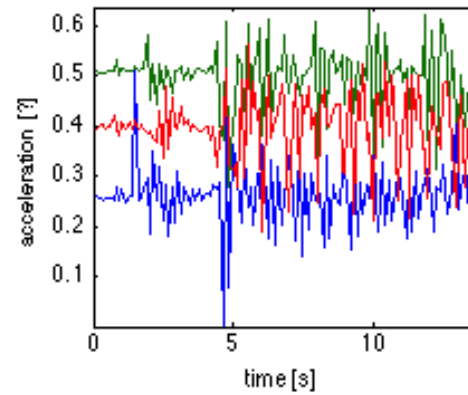
Run 2: 2ndSetup/2ndrun0.5/sensors_log.txt



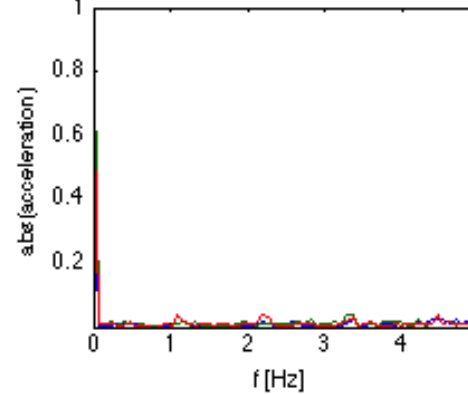
FFT of above



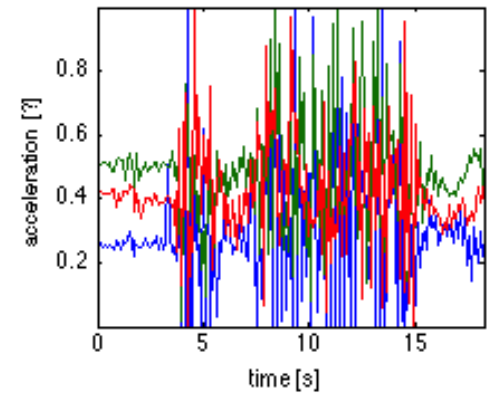
Run 3: 2ndSetup/3drun1/sensors_log.txt



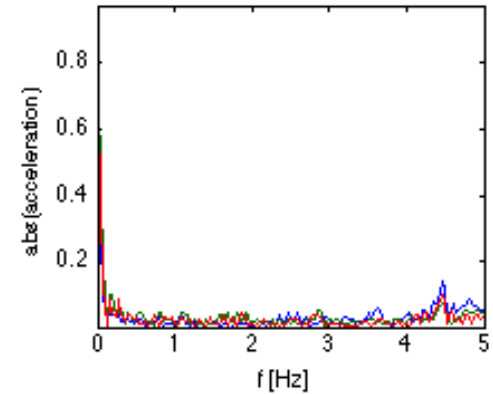
FFT of above



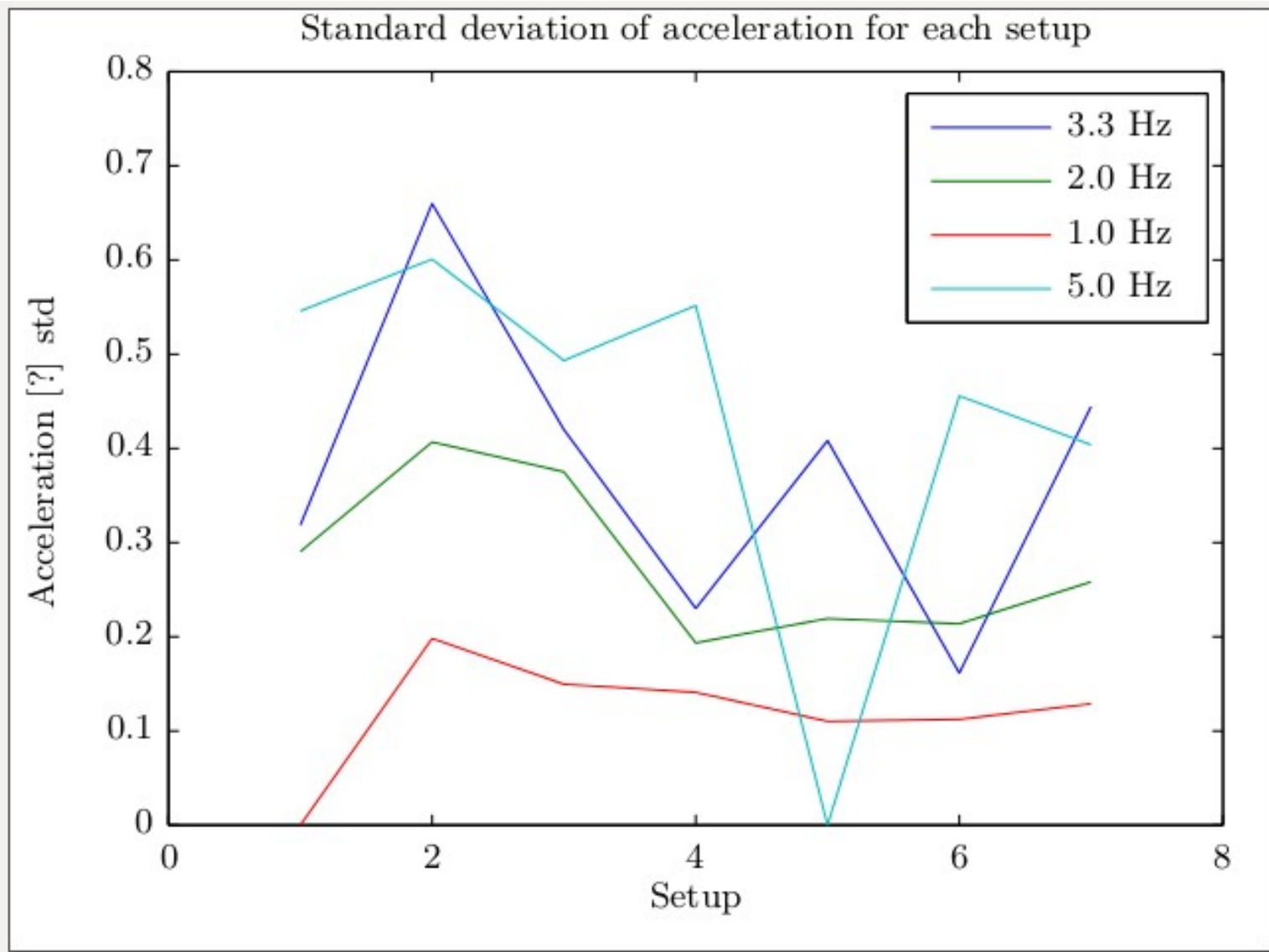
Run 4: 2ndSetup/4thrun0.2/sensors_log.txt



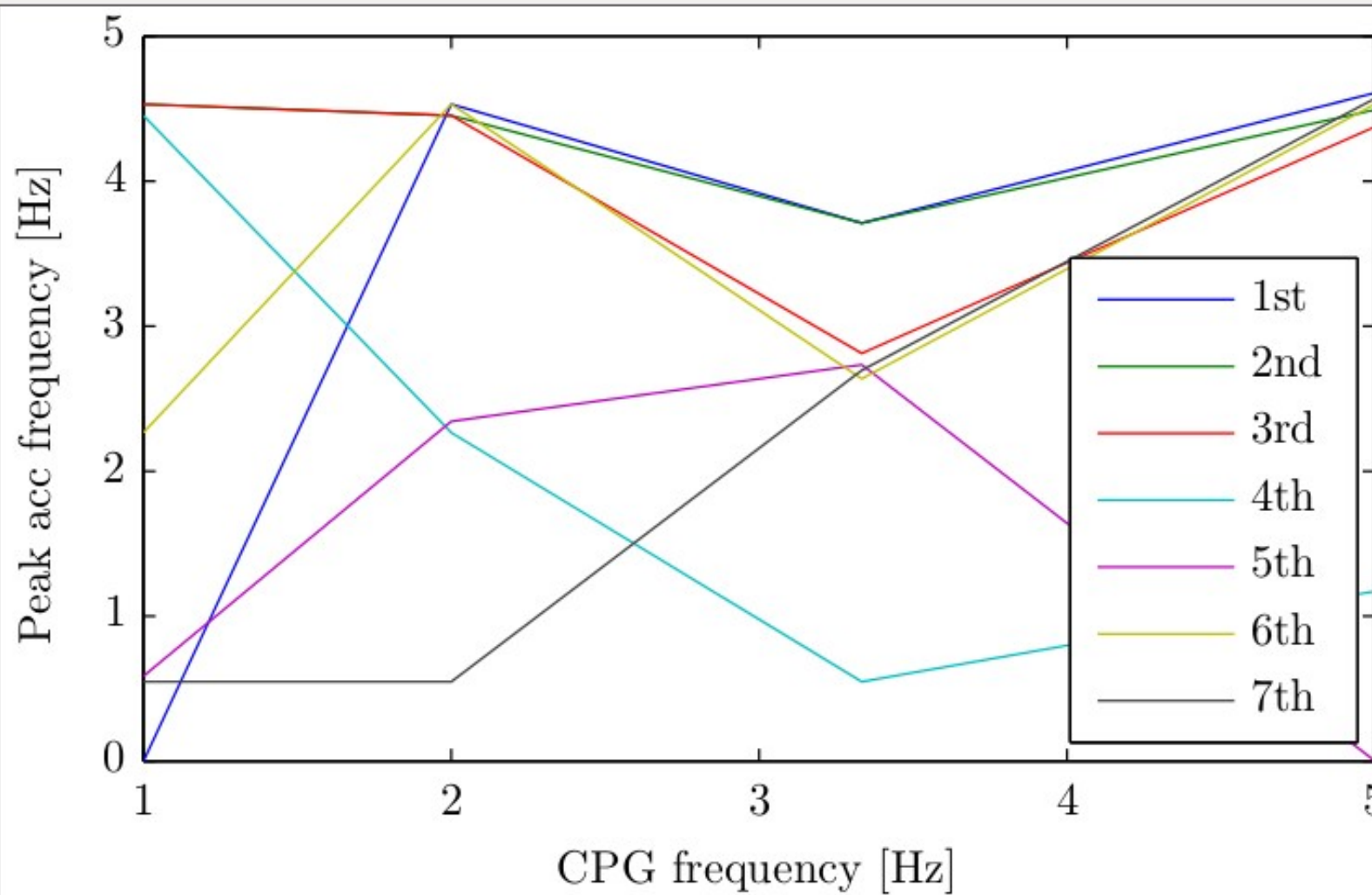
FFT of above



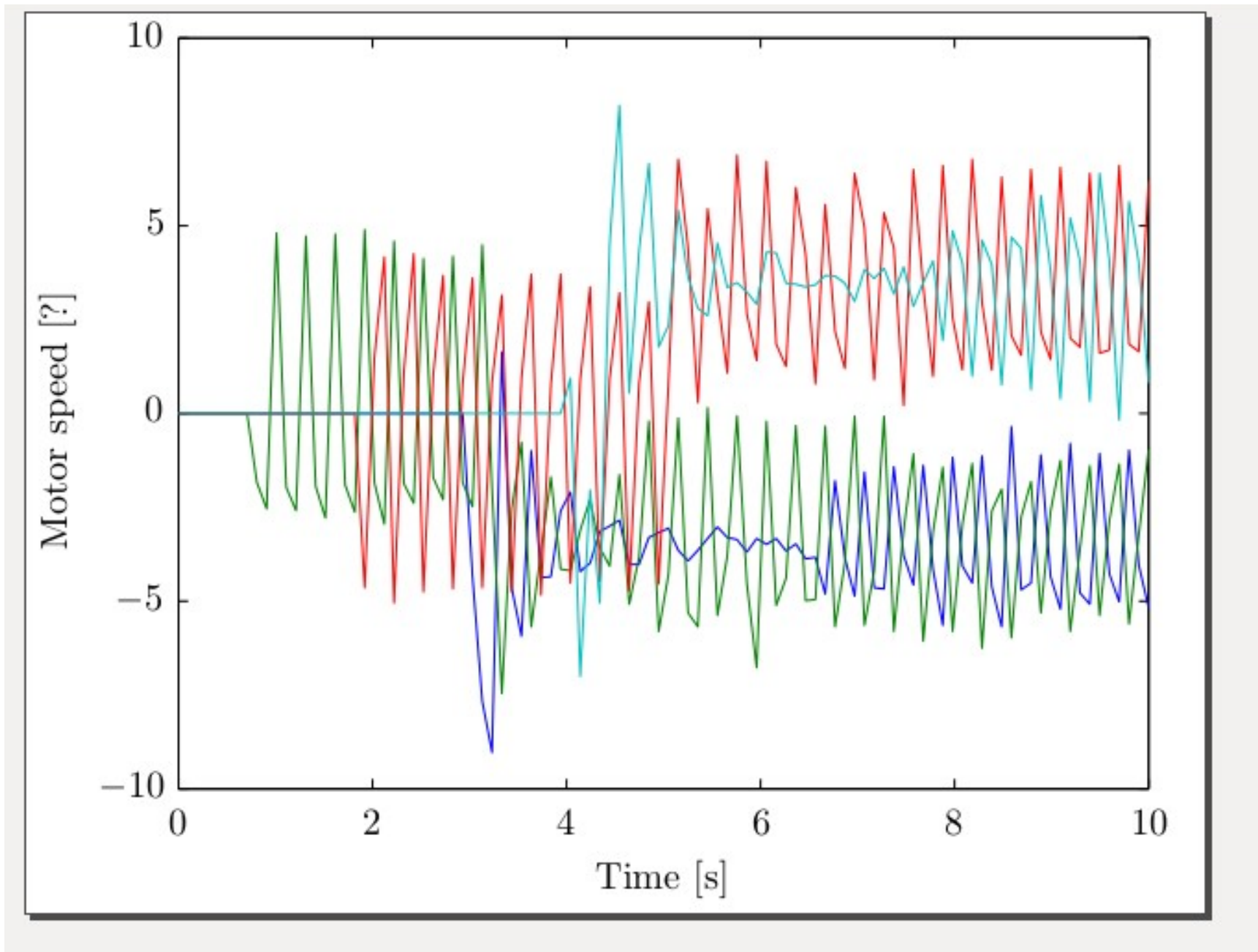
4. Results



4. Results



4. Results



5. Conclusions

- Fixed spine – low resonance peaks
- Loose control board had a resonance frequency of 4.5Hz
- 3.3 Hz CPG frequency presented the best performance

6. 'Future work'

- Distance measurements
- Improve leg configuration (angle of attack)
- Improve motors control