

# CHEETAH BOT

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# Motivation

- Cheetahs use a lot of spine movement

## Hypothesis

- Flexible spine increases speed
- Optimal stiffness depends on speed

- Mastertextformat bearbeiten
  - Zweite Ebene
    - The Role of a Flexible Spine in Quadrupedal Locomotion
  - Dritte Ebene
    - P. Hies, L. Daler and K. Peyer
  - Vierte Ebene
    - Fünfte Ebene

# Experimental Set-up

Gait: Bounding with a 45° phase shift

## Input

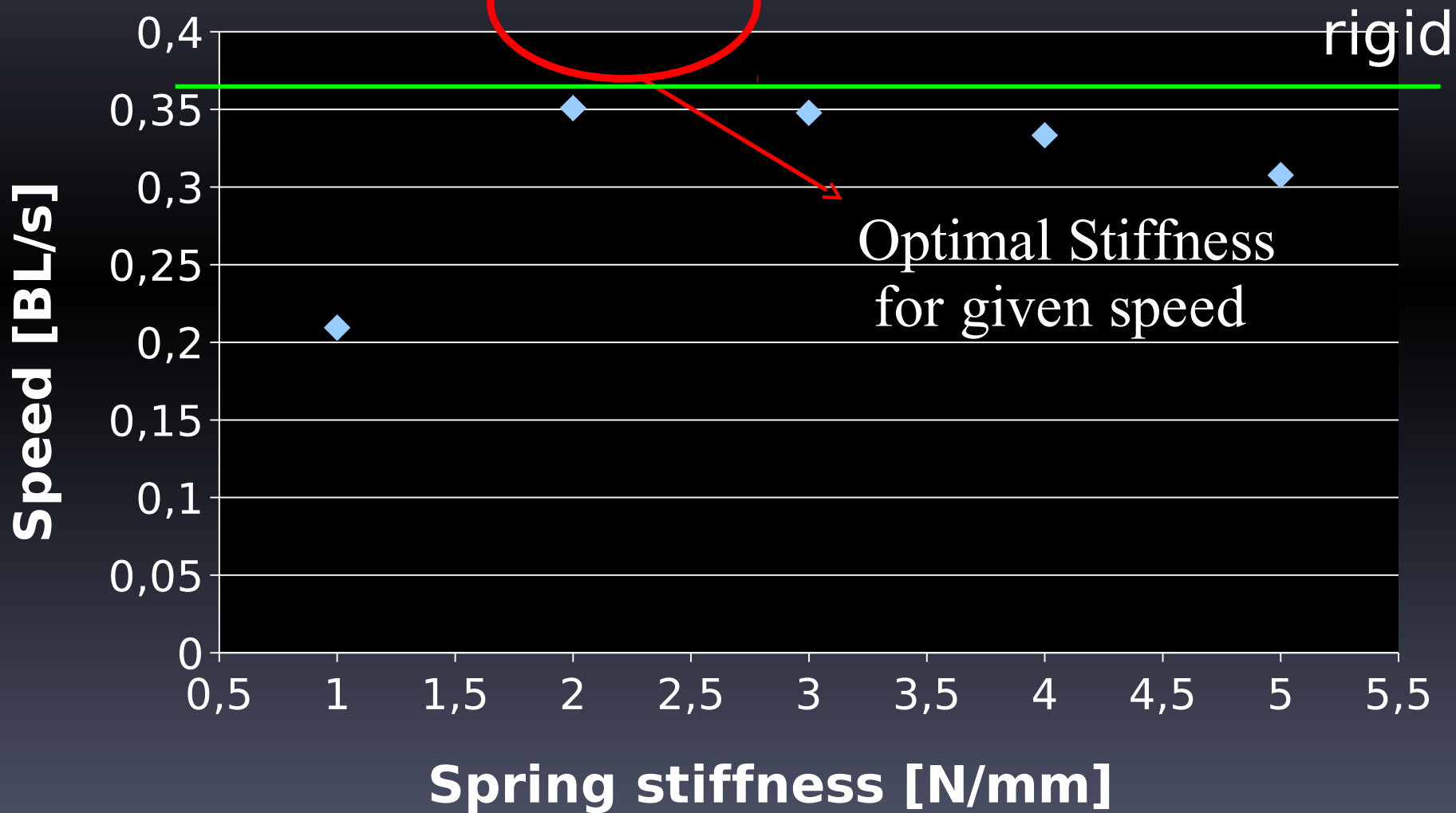
- Motor speed
- Spine stiffness

## Output

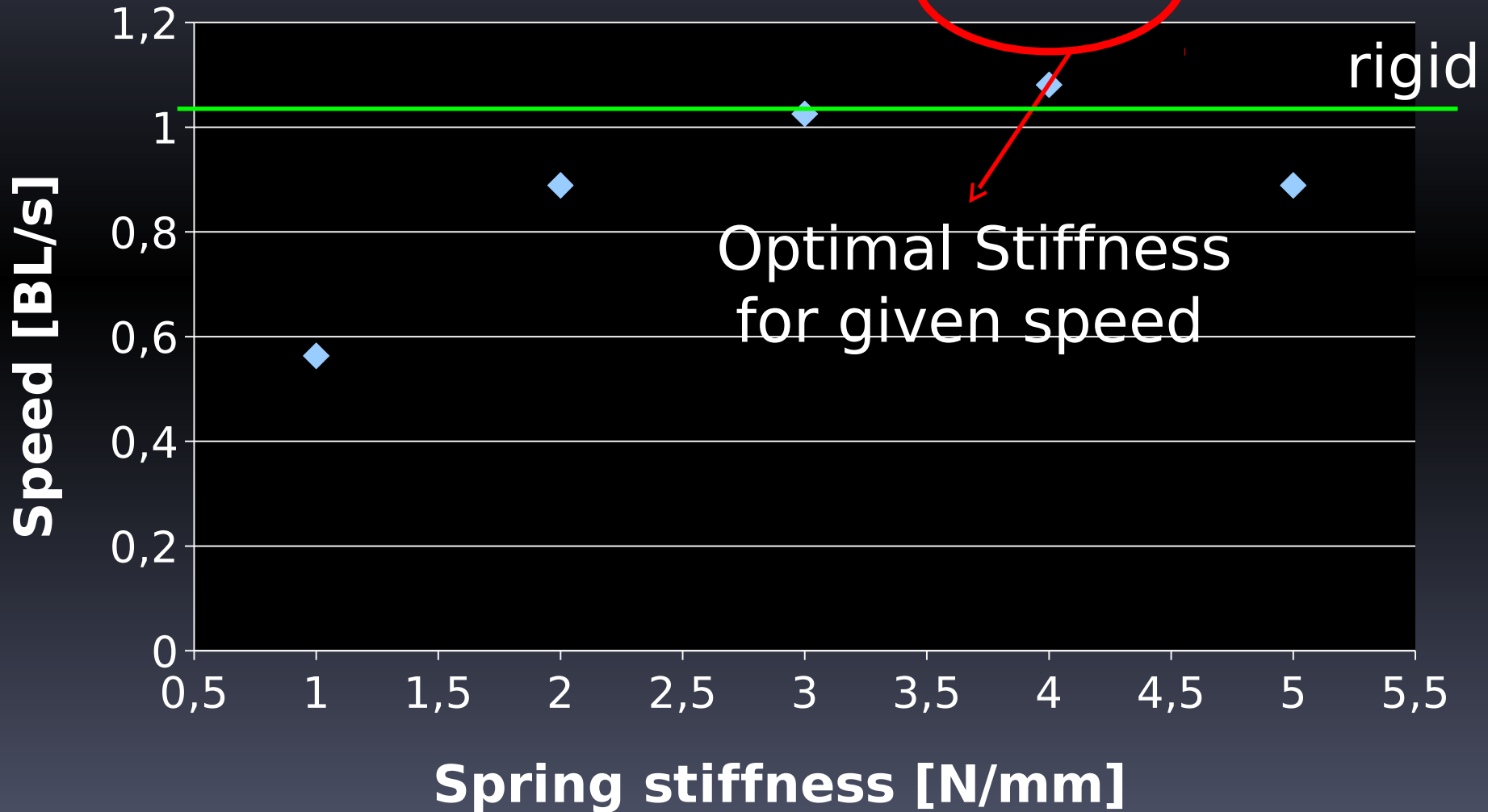
- Speed

□ *Optimal stiffness?*

# Speed [BL/s] (0.4 s/cycle)



# Speed [BL/s] (0.3 s/cycle)



# Conclusion

- A flexible spine may improve the speed
- Optimal stiffness depends on speed

Thank you for your attention!





# Unpublished Scenes

