

Experimental Validation of Controllers For Human-Robot Cooperative Swinging of Complex Pendulum-Like Objects

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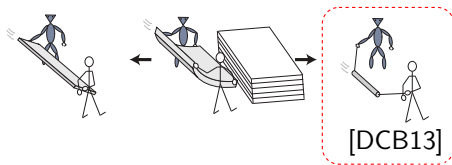
Forschungspraxis

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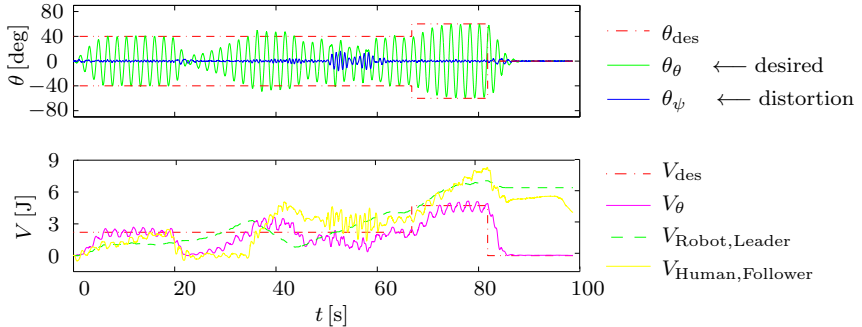
Problem Statement



Method

1. Implementation of control concepts for robot *leader* and robot *follower* on a KUKA LBR robot.
2. Modifying control method in order to increase robustness towards noise.
3. Measurements and validation of improved control concepts.

Results



- Successful implementation of a robot *follower* and a robot *leader*.
- Separate identification of desired and undesired oscillations from force sensor data.
- Precise sensing of human intentions through haptic feedback.

References



P. Donner, F. Christange, and M. Buss.

Human-robot cooperative object swinging of complex pendulum-like objects.

In: *IEEE International Conference on Intelligent Robots and Systems (IROS)* (2013), pp. 4328–4334.