Discussion Session w. 47

- Topics for discussion session w. 47:
  Iterative learning control and iterative feedback tuning

Literature:

- Norrlöf, M.: "Iterative Learning Control—Analysis, Design, and Experiments", Ph.D. Thesis No. 653, Linköping University, Linköping, Sweden, 2000.
- Xu, J. X., & Tan, Y.: *Linear and nonlinear iterative learning control*, Springer Verlag, Berlin Heidelberg, 2003.
- Wallén Axehill, J., Dressler, I., Gunnarsson, S., Robertsson, A., & Norrlöf, M.: "Estimation-based ILC applied to a parallel kinematic robot", *Control Engineering Practice*, Vol. 33, pp 1–9, 2014.
- Hjalmarsson, H.: "Iterative feedback tuning—an overview", *International Journal of Adaptive Control and Signal Processing*, Vol. 16, No. 5, pp 373–395, 2002.

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Discussion Session w. 47 (cont'd)

Initial research on iterative learning control is presented in

- Arimoto, S., Kawamura, S., & Miyazaki, F.: "Bettering operation of robots by learning", Journal of Robotic systems, Vol. 1, No. 2, pp. 123–140, 1984.
- Arimoto, S., Kawamura, S., & Miyazaki, F.: "Bettering operation of dynamic systems by learning: A new control theory for servomechanism or mechatronics systems", Proceedings of the 23rd Conference on Decision and Control, pp. 1064–1069, 1984.

Simulation task:

- Implement an algorithm for iterative learning control (ILC) or iterative feedback tuning (IFT), and evaluate the method in simulations on a robot manipulator of your choice.

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