Iterative Learning Control for the Two-Link Arm System

Motivation:

Iterative Learning Control (ILC) is a powerful control strategy for systems that execute the same task repeatedly, allowing tracking performance to improve from trial to trial by learning from previous errors. It can be applied to a wide range of repetitive systems to improve reference tracking accuracy and compensate for model uncertainties, nonlinearities, and repeatable disturbances. The Two-Link Arm System provides a realistic benchmark platform with coupled nonlinear dynamics.

Objectives:

- Extensive literature review on Iterative Learning Control
- Review and analyze the existing mathematical model of the Two-Link Arm System
- Implementation and comparison of different ILC strategies in simulation and in experiments

Start: Now

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