

Sliding Mode Control Approach for Double-pendulum Rotary Cranes

Zheng Tian, Huimin Ouyang and Huan Xi

College of Electrical Engineering and Control Science, Nanjing Tech University,
China

- A variable damping algorithm is proposed to solve the load/hook suppression problems.
- Disturbance observer is used to decouple it into two independent linear systems.
- A sliding mode controller with a nonlinear sliding surface is designed.
- Simulation results demonstrate the effectiveness of the proposed method.

