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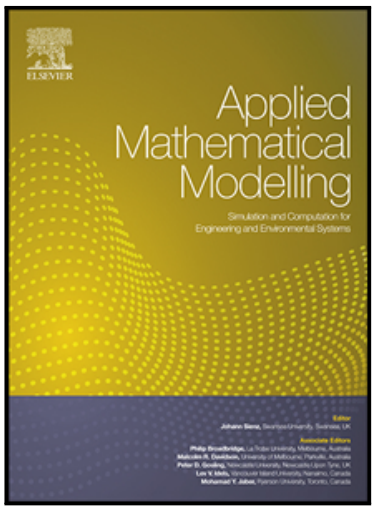

Self-tuning cross-coupled two degree-of-freedom PID control for position synchronization of dual linear motors

Syuan-Yi Chen , Chin-Sheng Chen , Zhen-Wei Yang

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Highlights

- Operational principleand dynamic analysisof two kinds of dual linear motors driven stages are discussed.
- Aself-tuning cross-coupled two-DOF PIDcontrollerisproposed with synchronous performance and self-tuning mechanism.
- An improved artificial bee colonyalgorithm is proposed to tune the control parameters online.
- Simulationsand experimentationsof five differentcontrollers are examined and compared.

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