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Reinforcement learning for optimal maintenance aided by degradation models

We consider a framework which addresses the search for an optimal maintenance policy of a system by using observed system state data to learn the degradation model on one hand, and by using simulation from the learned model to obtain future states and rewards to update the value function and improve the current policy, on the other hand. We apply this framework to the maintenance of lithium-ion batteries.

Special/ Invited session

Statistical methods, applications and recent developments for the technological field

Classification

Both methodology and application

Keywords

degradation models, reinforcement learning, optimal maintenance

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