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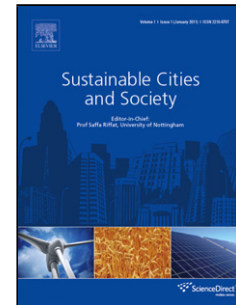
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Scheduling Charging of Hybrid-Electric Vehicles according to Supply and Demand based on Particle Swarm Optimization, Imperialist Competitive and Training-Learning Algorithms

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Highlight:

- 1-Representing Scheduling Charging of Hybrid-Electric Vehicles connected to network
- 2-Representing charging battery of vehicles
- 3-Investigating Teaching–learning-based Optimization (TLBO) algorithms are used to schedule and optimize charging
- 4-Investigating to decrease distance between peak and valley on load curve

Abstract-Increase in price of fossil fuels along with environmental issues caused by development of these resources has motivated researchers to offer resources and technologies to decrease dependency to such fuels. Hybrid-electric vehicles can receive energy from the network, store it in their battery and convert it into mechanical energy while moving. Load resulting from charging battery of these vehicles and their long charging time might increase network load and put security of the system into danger. Thus, despite various advantages, there are concerns about vast and unscheduled charging of these vehicles in the distribution network. With the increase in penetration of electric vehicles, additional load is imposed on the network due to stochastic nature of battery charging and presence of these vehicles in different places.

If this load is imposed during peak load, undesirable effects occur in the distribution network including increase in losses and voltage drop. In this study, hybrid-electric vehicles connected to network and corresponding supply and demand programs are investigated; then, PSO, ICA and

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