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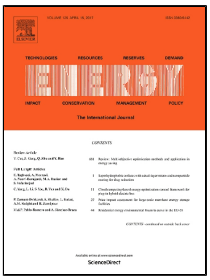

Double layer Metaheuristic based Energy Management Strategy for a Fuel Cell /Ultra-Capacitor Hybrid Electric Vehicle

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- An integrated rule-based metaheuristic EMS for a FC/UC vehicle is presented.
- The EMS fuses the simplicity and efficiency of rule-based and optimization methods.
- Online results present sub-optimal performance compared to optimal offline results.
- FC system durability is maintained by limiting its power variation rate.
- Computational time is suitable for real time applications.