

Energy Loss Minimization Modelling for Given Energy Path in Vehicular Energy Network

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Abstract—We suggest energy loss minimization model while maximizing transfer energy under given energy path condition. When energy paths of vehicular energy network are given, total loss minimization can be seen as linear program. So, we use method of Lagrange multiplier to get dual problem. And then, Karush-Kuhn-Tucker conditions is applied on this dual problem. Advances in intelligent transportation systems and smart grid technologies offer great promise to widely popularize electric vehicles, and have the potential to revolutionize urban transportation systems and power systems. Vehicular energy network is a vehicular network capable of transmitting energy effectively over a large geographical area by means of EVs.

(Pt9)Keyword— Electric Vehicle, Energy Path, Optimization, Smart Grid, Vehicular Energy Network.



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