

## عنوان مقاله:

A Method for Possible Programming of Electric Micro grids in the Presence of Renewable Sources and Electric Vehicles

## محل انتشار:

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## خلاصه مقاله:

One of the main sources of air pollution and energy consumption is the transportation industry. Today, the development of electrical and plug-in vehicles has special importance in the reduction of energy consumption and pollution. Therefore, optimal charging of electric vehicles that can keep the balance of electricity supply and distribution network, and supply the power needed by the vehicle, is very important. In this article, first the vehicle and its load is modelled with renewable sources, and then the programming the charge control – using genetic algorithm for charging, discharging, and proper distribution of current in electrical micro grids, is developed. Finally, the effects of various time periods on the network load, methods for proper charging and accumulating vehicles for connection to the network using intelligent control systems are presented. For simulation, vehicle charging methods in three modes – intelligent, semi-intelligent, and non-intelligent, during various seasons are analysed. Results show that by increasing the penetration coefficient of electric vehicle and optimizing the charging process, network power loss and current expenses can be reduced in various scenarios.

## کلمات کلیدی:

Hybrid vehicles, plug-in, electric micro grid, charging, genetic algorithm

## لینک ثابت مقاله در پایگاه سیویلیکا:

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