

## عنوان مقاله:

Temperature and Power Control for Zero Energy Building Integrated- Hybrid Fuel Cell/ Electrolyzer /PV Combined with Plug-in Electric

## محل انتشار:

کنفرانس بین المللی مهندسی برق (سال: 1395)

تعداد صفحات اصل مقاله: 13

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## خلاصه مقاله:

This paper presents Temperature and power control of a building integrated hybrid renewable power sources including photovoltaic, high temperature fuel cell, electrolyzer and battery energy storage with Plug-in Electric Vehicles (PEV) in smart distribution systems. First, the overall configuration of the hybrid system including dynamic models of photovoltaic, fuel cell, battery and its power electronic interfacing are briefly described, then controllers design methodologies for power electronic converters in order to manage the power flow from hybrid renewable nanogrids and PEV to the utility grid during normal operation are introduced. Moreover, an adaptive fuzzy sliding power control strategy is proposed for fuel cell power source to keep. Simulation results are illustrated to demonstrate the effectiveness and capability of proposed control strategy during different operating conditions in utility grid. The performance of the proposed controller is verified using hardware-in-the-loop (HIL) real-time simulations carried out in OPAL-RT technologies for a real building in Tehran. The HIL results show that the proposed controller provides the proper power and temperature control strategy

## کلمات کلیدی:

Control, Power, Fuel cell, Photovoltaic, Electric Vehicle, Zero Energy Building

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/503871>

