

## عنوان مقاله:

Peer-to-Peer Energy Management in an Islanded Multi-agent Microgrid

## محل انتشار:

نخستین کنفرانس سراسری پژوهشهای کاربردی در مهندسی برق (سال: 1399)

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## خلاصه مقاله:

Microgrid as a new entity in power systems facilitates the integration of distributed energy resources to the system. In this regard, private investments in the development of distributed generation units as well as flexible resources such as storage units have significantly increased by the introduction of microgrids. In this new structure, distributed energy resources would be operated by independent agents, while the microgrid control unit acts as a coordinator to ensure supply-demand balance in the system. Nevertheless, new energy management techniques should be deployed in multi-agent microgrids in order to address the distributed nature of these systems. Consequently, this paper aims to provide a peer-to-peer energy management scheme in order to facilitate the operation of a multi-agent microgrid operating in an islanded mode. In this regard, the developed framework enables the power transaction among independent agents of the system in order to ensure supply-demand balance, while addressing privacy concerns associated with private customers. Finally, the proposed approach is conducted on a microgrid with a multi-agent structure in order to investigate its effectiveness to operate the microgrid in the islanded mode.

## کلمات کلیدی:

Multi-agent system, Microgrid, Distributed Energy Resources, Peet-to-Peer transaction, Flexibility

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1265867>

