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A Hybrid Power Supply with Variable Speed Drive for Automatically Move Irrigation Equipment: Margin of Feasibility

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Краткое описание

Center pivot irrigation systems are widely used in agriculture. Their water pumping systems are primary energy consumers. The use of photovoltaic power plants and variable speed drives of electric motors can reduce energy costs. The purpose of this study is to determine the feasibility of integrating variable speed drives and photovoltaic modules into water pumping systems. A novel architecture of a pumping system was suggested. Its features are no battery backup and the sale of electricity into the grid. © 2021 IEEE.

Ключевые слова автора

control; cost saving; efficiency; energy supply; irrigation; photovoltaic; variable speed drive

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Engineering controlled terms
Electric drives; Irrigation; Pumping plants; Pumps; Speed; Variable speed drives

Engineering uncontrolled terms
Center pivot irrigation systems; Cost saving; Energy consumer; Energy supplies; Hybrid power supply; Irrigation equipment; Photovoltaics; Primary energies; Variable-speed drives; Water pumping systems

Engineering main heading
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