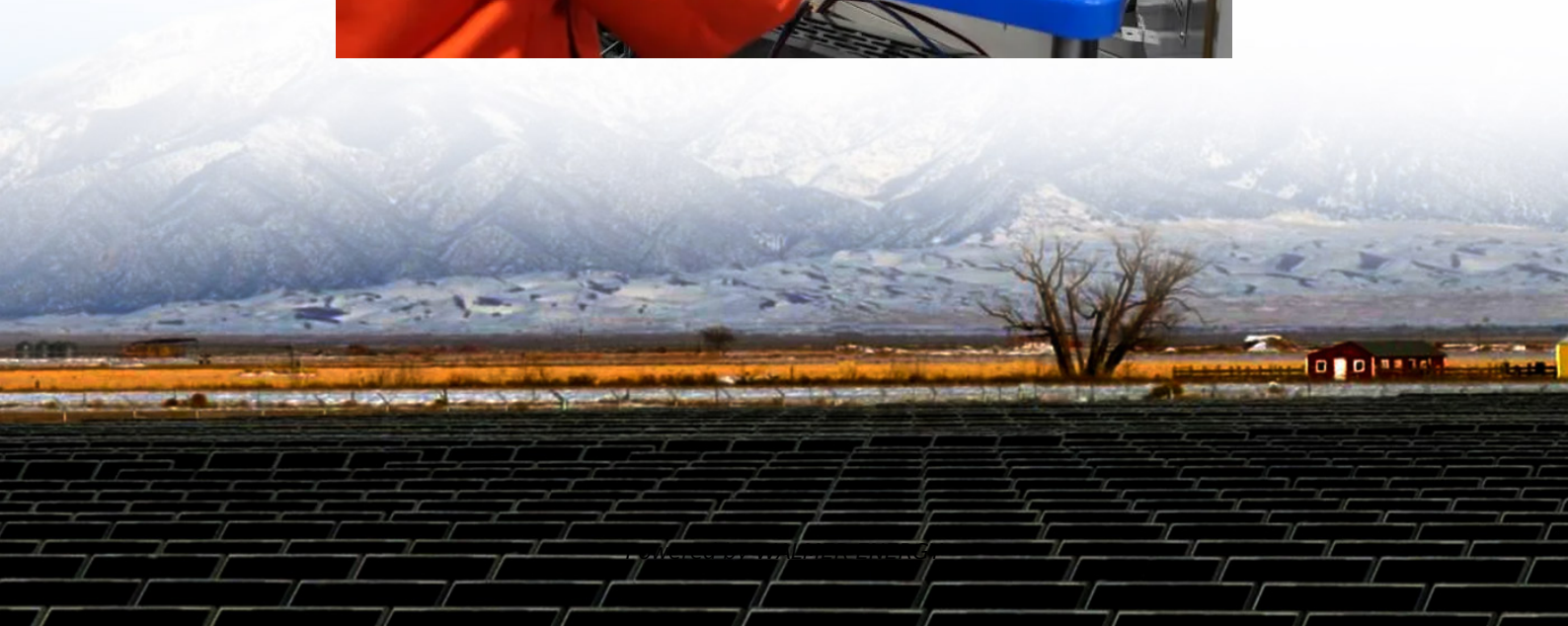


Magadan-1 high frequency inverter





Overview

What is a high frequency variable load inverter architecture?

This thesis presents a high frequency variable load inverter architecture along with a physical prototype and efficiency optimizing controller. The inverter architecture consists of two constituent inverters, one connected directly through the load and the other connected through an impedance converter, which acts as a lossless power combiner.

Can a high-frequency variable load inverter directly drive widely variable loads?

Typically a tunable matching network is used to transform the varying load into a constant and impairing transient response. This thesis presents the design, physical prototype, controller, and experimental results of a high-frequency variable load inverter architecture (referred to as HFVLI) that can directly drive widely variable loads.

What is the efficiency of a RF inverter?

The first physical prototype of a wide load range RF inverter based on the proposed high frequency variable-load inverter topology was designed and built along with an efficiency optimizing controller. Efficiency of 95.4%.

Can hfvli drive a wide load range RF inverter?

From these results it is evident that the HFVLI prototype is successful in the goal of driving a wide load range at high power levels. The first physical prototype of a wide load range RF inverter based on the proposed high frequency variable-load inverter topology was designed and built along with an efficiency optimizing controller.



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