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Dual inverter voltage vector





Overview

How does dual inverter work?

By using dual inverter, the actual number of motor phase voltage level is increased. For example, dual two-level inverter operates in three-level mode with equal DC-bus voltages, and operates in four-level mode when the dc voltages are in 2:1 ratio [15].

How can a dual inverter generate a mid-point voltage difference?

Thus, and can be generated by two independent space vector pulse width modulation (SVPWM) controllers. Because the two power sources are electrically isolated, the mid-point voltage difference is floating and varying along with the switching states of dual inverter.

How to select the desired voltage vector of inverter1?

The desired voltage vector of inverter1 will be chosen among zero vector and basic voltage vectors lying in the feasible region of voltage vector distribution mentioned in Section 2.2, the one makes inverter1's output power closest to the desired value will be selected. The specific algorithm will be introduced as follow.

Can dual-vector modulated MPC control two-level voltage source inverters?

6. Extensions Although the proposed dual-vector modulated MPC is aiming to control two-level voltage source inverters, further studies in this paper show that it can also be used to control other types of inverters by only changing the voltage vectors according to the corresponding inverter, which is another important contribution of this paper.



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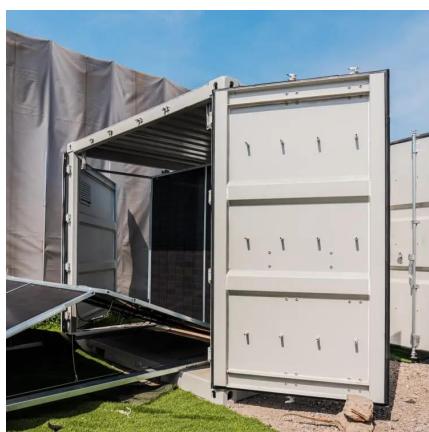
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The control methods proposed by this paper is based on voltage vector generated by dual inverter, so in this section the mathematical system model is built, which provides theoretical

...

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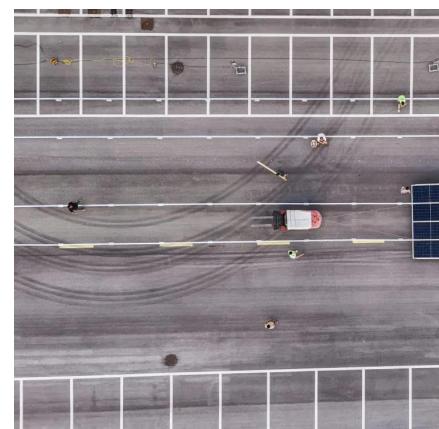
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