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(54) **UDE-BASED ROBUST DROOP CONTROL FOR PARALLEL INVERTER OPERATION**

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(58) **Field of Classification Search**
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(57) **ABSTRACT**

A control system and method include a control strategy and a UDE (Uncertainty and Disturbance Estimator)-based controller incorporated into the control strategy to achieve proportional load sharing for parallel-operated inverters. The UDE-based controller regulates the reactive power against the output generated by a reactive power reference unit according to the load voltage to generate the amplitude of the control voltage. The conventional droop method regulates real power to generate the phase of the control voltage. As a result, the model uncertainties (e.g., parameter drifts and uncertain output impedance), and system disturbances (e.g., fluctuating DC-link voltage and load change) can be estimated and compensated for accurate load sharing.

13 Claims, 9 Drawing Sheets

