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Homes and businesses are by far the most common and widely used on-grid or grid-tie solar systems. These systems do not need batteries and are connected to the public ...

Abstract Aiming at the rich bifurcation and chaotic characteristics in the inverter with proportion integral derivative (PID) controller, the discrete iterative model of such an ...

In this simplified network, the feasible operating region is identified using bifurcation techniques. It transpires that the stable operating region is bounded by a locus of Hopf bifurcations linked ...

There are complex nonlinear phenomena such as bifurcation and chaos in a sinusoidal pulse-width modulated fourth-order H-bridge inverter, which can reduce the stability ...

Homes and businesses are by far the most common and widely used on-grid or grid-tie solar systems. These systems do not need ...

Whether in residential solar setups or large-scale Battery Energy Storage Systems (BESS), bi-directional inverters ensure seamless power flow in both directions--charging and ...

In light of this, developing a control method capable of effectively suppressing bifurcation and chaotic behaviors holds significant theoretical value and practical importance ...

This paper studies the stability of a single-phase voltage source full-bridge inverter with an LCL filter through the bifurcation theory ...

The comparative analysis shows that this strategy enhances the stability domain for each parameter by more than 8% in the quasi-PIR controlled second-order inverter, and ...

Complex dynamical behaviors such as bifurcation and chaos exist in H-bridge inverter with RLC load, and these nonlinear behaviors will greatly increase the harmonic ...

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