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(54) **THREE-PHASE UNINTERRUPTIBLE POWER SYSTEM AND OPERATION METHOD**

(71) Applicant: **CYBER POWER SYSTEMS, INC.**,  
Taipei City (TW)

(72) Inventors: **JUNG-HUA WENG**, TAIPEI CITY  
(TW); **MING-CHUAN LIN**, TAIPEI  
CITY (TW)

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(57) **ABSTRACT**

A three-phase uninterruptible power system and an operation method thereof are provided. The three-phase uninterruptible power system comprises a DC bus, three power conversion circuits and a control circuit. When the three-phase uninterruptible power system enters a line mode from a battery mode, the control circuit performs a huge current suppression for each power conversion circuit according to a predetermined sequence. The huge current suppression performed for any of the power conversion circuits comprises the following steps: disabling the DC-DC conversion of the power conversion circuit, and having the other two power conversion circuits to additionally share the original load of the disabled power conversion circuit; and after the DC-DC conversion of the power conversion circuit is disabled, enabling the AC-DC conversion of the power conversion circuit, and having the power conversion circuits revert to their original load.

