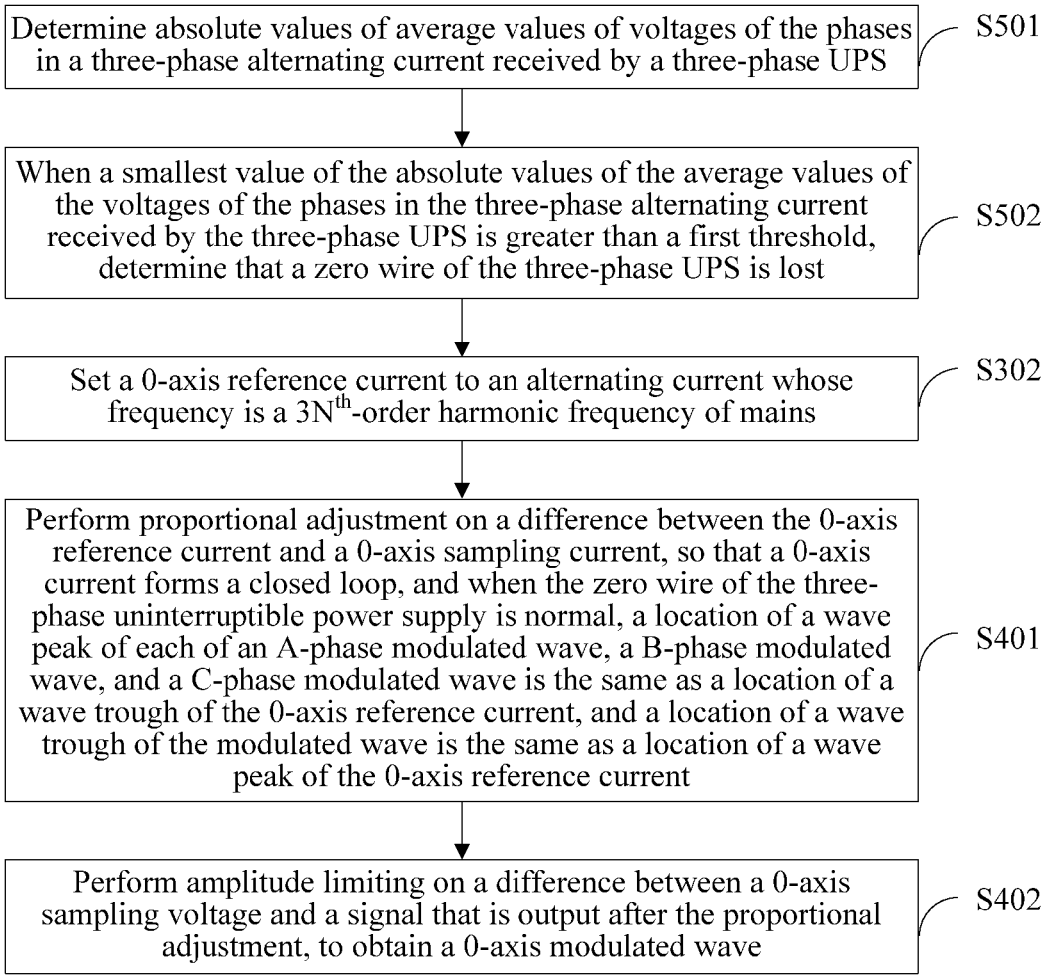
Determine absolute values of average values of voltages of the phases in a three-phase alternating current received by a three-phase UPS
S501
When a smallest value of the absolute values of the average values of the voltages of the phases in the three-phase alternating current received by the three-phase UPS is greater than a first threshold, determine that a zero wire of the three-phase UPS is lost
S502
Set a 0-axis reference current to an alternating current whose frequency is a 3Nth-order harmonic frequency of mains
S302
Perform proportional adjustment on a difference between the 0-axis reference current and a 0-axis sampling current, so that a 0-axis current forms a closed loop, and when the zero wire of the three-phase uninterruptible power supply is normal, a location of a wave peak of each of an A-phase modulated wave, a B-phase modulated wave, and a C-phase modulated wave is the same as a location of a wave trough of the 0-axis reference current, and a location of a wave trough of the modulated wave is the same as a location of a wave peak of the 0-axis reference current
S401
Perform amplitude limiting on a difference between a 0-axis sampling voltage and a signal that is output after the proportional adjustment, to obtain a 0-axis modulated wave
S402

FIG. 5

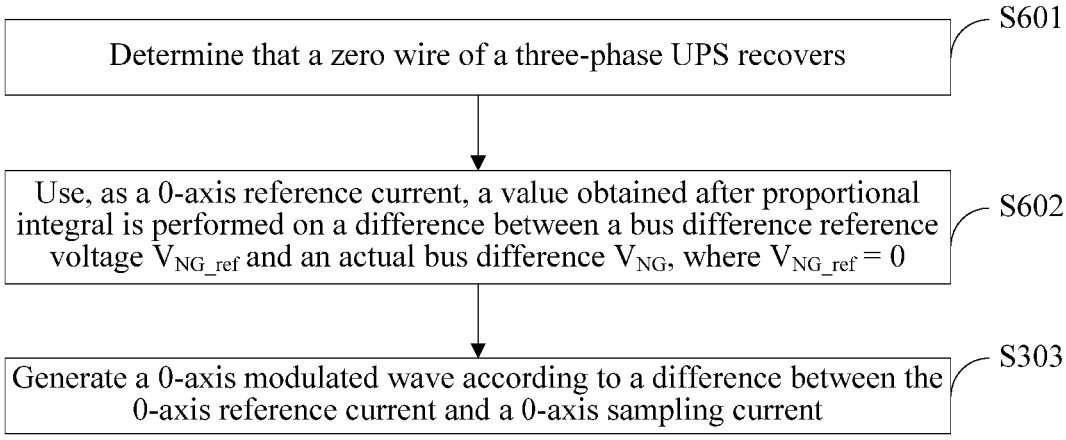
Determine that a zero wire of a three-phase UPS recovers
S601
Use, as a 0-axis reference current, a value obtained after proportional integral is performed on a difference between a bus difference reference voltage V_{NG_ref} and an actual bus difference V_{NG}, where $V_{NG_ref} = 0$
S602
Generate a 0-axis modulated wave according to a difference between the 0-axis reference current and a 0-axis sampling current
S303

FIG. 6