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### Patent Search

Invention Title	VOLTAGE UNBALANCE REDUCTION IN WEAK MICROGRID
Publication Number	09/2021
Publication Date	26/02/2021
Publication Type	INA
Application Number	202111006932
Application Filing Date	19/02/2021
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	ELECTRICAL
Classification (IPC)	H02J0003380000, H02M0007493000, H02M0007490000, D06F0037200000, H02M0001120000
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#### Abstract:

Our invention Voltage Unbalance Reduction in Weak Microgrid is a la weak microgrid which is constituted with small sources and resistive cable network, voltage unbalance occurs when Voltage source inverters (VSI) operated in parallel. Voltage unbalancing caused by the circulation of reactive power among the inverters. In non-identical circuit parameters are different which causes the circulation of current. Designed unbalance controller in addition to the main controller and auxiliary controller, mitigate the problem of phase voltage unbalancing.

#### Complete Specification

Our invention is related to a Voltage Unbalance Reduction in Weak Microgrid and also relates to microgrid droop control design field, especially relate to a kind of microgrid droop control optimization method controlled based on sliding mode control and the belongs to distributed power source control technology field in micro-grid system, relate to a kind of common bus Voltage unbalance inhibition method based on the parallel connection of many distributed power sources.

#### BACKGROUND OF THE INVENTION

Distributed power source and energy storage device (storage battery, high speed flywheel etc.) may be combined with into micro power network (abbreviation microgrid) together to critical load uninterrupted power supply in high quality. Microgrid both can as one independently system meet user side demand, again can with bulk power grid networking operation, improve power supply reliability, there is stronger flexibility and schedulability.

In order to meet the continual demand of microgrid internal user electricity consumption, microgrid needs to carry out freely seamless switching at

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