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(54) **DISTRIBUTED GENERATION CONTROL FOR MICROGRID DURING ISLANDING**

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CPC **G06F 1/305** (2013.01); **H02J 3/381** (2013.01); **H02J 3/383** (2013.01); **H02J 3/46** (2013.01); **H02J 2003/388** (2013.01); **Y02E 10/563** (2013.01)

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See application file for complete search history.

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(57) **ABSTRACT**

System and methods are disclosed to handle power imbalance in one or more distributed generation (DG) units: detecting islanding at time t_1 ; selecting Phasor Measurement Unit (PMU) measurements during a pre-defined time window $[t_1 - \tau, t_1]$; checking the time window for an abrupt voltage change; if no sudden change of voltage is detected, determining an average value of s_{PMU}^t between $t_1 - \tau$ and t_1 and using the average as a best estimate of a system power imbalance; if a sudden change of voltage is detected at time instant t_2 , determining the average value of s_{PMU}^t between $t_1 - \tau$ and t_2 and using the average as a best estimate of the system power imbalance; and adjusting a power reference of the DG units based on the best estimated system power imbalance.

19 Claims, 4 Drawing Sheets

