

14. COORDINATED V-F AND P-Q CONTROL OF SOLAR PV WITH MPPT IN MICRO GRIDS

S.VASANTHA VENI

PG STUDENT DEPARTMENT OF EEE, G.K.M COLLEGE OF ENGINEERING AND TECHNOLOGY, CHENNAI

e-mail id venitamilselvi@gmail.com

The micro grid is connected to the medium voltage level utility grid through circuit breakers. In islanded condition, a micro grid has to operate on its own, independent of the grid. At that condition there is a chance of occurring voltage and frequency deviation. In order to overcome this problem different MPPT control methods are implemented in this proposed project. The micro grid concept allows small distributed energy resources (DERs) to act in a coordinated manner to provide a necessary amount of active power and ancillary service when required. Results also shows an effective coordination among participating micro resources while considering the case of changing irradiance level. The irradiance level is traced by using MPPT algorithm. The improved incremental conductance algorithm is used in this project to get better result. Super capacitor is for storage control. The key issues discussed and associated with this project is the coordinated control of voltage , frequency, real and reactive power control. The simulation results are carried out in MATLAB.

Index terms-Maximum power point tracking, voltage and frequency control, incremental conductance method.

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