

VOLTAGE DIPS AND CONVERTER-CONNECTED DISTRIBUTED GENERATION UNITS

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ABSTRACT

The interaction between converter-connected distributed generation units and voltage dips will become increasingly important. This paper focusses on the relation between the behaviour of converters during voltage dips and their current control strategy. A comparison is made between a recently proposed control strategy with programmable damping resistance and the classical sinewave control algorithm. The first-mentioned control structure will prove to yield an improved voltage dip immunity. Experimental tests on a single-phase full-bridge bidirectional converter are carried out and validate the aforementioned postulations. Moreover, the retained voltage at the point of connection of the DG unit will increase thanks to the implementation of the damping control strategy.