

## A Hybrid Reference Signal Generator for Active Compensators

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A new reference generation technique for active compensators based on the use of CPC theory along with the instantaneous reactive power ( $p-q$ ) theory is presented here. Modifications to reference signal generation techniques based on instantaneous reactive power as well as to the synchronous reference frame ( $d-q$ ) method are proposed. The proposed strategy utilizes the CPC theory instead of the filters typically used to extract the desired components of the current.

A simulation-based example is provided that shows this new approach retains the “instantaneous” property provided by the  $p-q$  or  $d-q$  methods under certain conditions without the negative effects found using the traditional method.



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