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Etude Comparative des Techniques de Filtrage Actif Sélectif par le Référentiel Synchrone de Park d-q et l'Approche FMV

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Abstract: To minimize the total harmonic distortion (THD) and improve the power factor (PF), this paper presents a comparative study between two techniques of shunt power active filter (SPAF) by a selective action of harmonics. These two techniques are based on the SAPF of certain low frequency harmonics (5th and 7th) whose identification of the harmonics of references of the first is made by the axis synchronous d-q of the Park, and the second is done by the approach of self-tuning filter (STF) Thereafter, The active simultaneously filtering of the 5th and 7th harmonics of the current of load catches. The shapes of the signals and the THD values resulting from the results of digital simulations (Matlab-Simulink) elaborate the effectiveness and the best technique of this type of filtering.

Keywords : PF, THD, Harmonics, SAPF, STF, d-q Park Synchronous Axis