

**POWER CAPACITOR
FOR
HARMONIC FILTER
1992-2005**

Doc Type: IEEE Transactions on Power Delivery
Capacitor and Shunt Filter Unbalance Influence on the Electric System Harmonic Response
Authors: Luis Sainz, Joaquin Pedra, Sergio Herraiz
Ref: IEEE Transactions on Power Delivery
Vol. 20, no 2, April 2005, page 1522
Language: English
Abstract: This paper studies the harmonic response of an electric power system in the presence of capacitor and shunt filter banks. The consequences in the harmonic resonant behavior of an unbalance in one of the equipment capacitors are analyzed.

Doc Type: IEEE Transactions on Power Delivery
A novel Active Power Filter for Harmonic Suppression
Authors: Hurng-Liahng Jou, Jinn-Chang Wu, Yao-Jen Chang, Ya-Tsung Feng
Ref: IEEE Transactions on Power Delivery
Vol. 20, no 2, April 2005, page 1507
Language: English
Abstract: In this paper, a novel active power filter is proposed and implemented by using a voltage-source power converter with a series connected inductor and capacitor set. The power converter is controlled to generate a compensating voltage that is converted into a compensating current via the series connected inductor and capacitor set.

Doc Type: IEEE Transactions on Power Delivery
Power converter-Based Method for Protecting Three-Phase Power Capacitor From Harmonic destruction
Authors: Jinn-Chang Wu, Hurng-Liahng Jou, Kuen-Der Wu, N.C Shen
Ref: IEEE Transactions on Power Delivery
Vol. 19, no 3, July 2004, page 1434
Language: English
Abstract: This paper proposes a new capacitor protection for resonant harmonic loads by applying a low capacity power converter to act as a virtual harmonic resistor to damp the resonance effect at the harmonic frequency and regenerates the real power back to the utility system at the fundamental frequency with minimum power loss.

Doc Type: IEEE Transactions on Industry Applications
Title: **Designing Harmonic Filters for Adjustable-Speed Drives to Comply with IEEE-519 Harmonic limits**
Authors: F. McGranaghan and David Mueller
Ref: IEEE Transactions on Industry Applications
VOL. 15, no 2, March/April 1999, p. 312
Language: English

Abstract: This paper discusses the application of the revised IEEE 519 harmonics standard to typical industrial facilities employing adjustable-speed drives (ASD's)

Doc Type: IEEE Transactions on Power Systems
Title: **Passive Shunt Harmonic Filters for Low and Medium Voltage: A cost Comparaison**
Authors: C. Kawann, A.E. Emanuel
Ref: IEEE Transactions on Power Systems
VOL. 11, no 4, November 1996, p. 1825
Language: English

Abstract: The main conclusion of this paper is that for nonlinear loads in excess of 1MVA it is more economical to use filter centers connected on the 13.8 kV side.

Doc Type: IEEE Transactions on Power Delivery
Title: **AC Filter Arrester Application**
Authors: J. Harder
Ref: IEEE Transactions on Power Delivery
VOL. 11, no 1, July 1996, p. 1355
Language: English

Abstract: This investigation considers both the continuous arrester heating caused by a mixture of harmonic voltages and the effect of temporary overvoltages in order to provide guidelines for the appropriate selection of an arrester voltage rating for this type of application.

Doc Type: IEEE 94 Summer Meeting presentation (San Fransisco, CA)
Title: **Selecting Ratings for Capacitors and Reactors in Applications Involving Multiple Single-Tuned Filters**
Authors: J.A. Bonner, W.M. Hurst, R.G. Rocamora from Cooper Power Systems
M.R.Sharp from Trench Electric
R.F.Dudley, J.A. Twiss
Ref: IEEE 94 SM 457-2 PWRD
Language: English

Abstract: This paper focuses on the selection of ratings for capacitors and air-core reactors used in multiple single-tuned harmonic filter configurations. Digital transient simulations of an example power system demonstrate the exceptionally high voltage and current stresses placed upon filter components in these configurations. Design guidelines for increasing the component ratings to account for the extra stresses are described. A comparison between traditional rating methods and the proposed methods are presented for the example system.

