Compensation method of phase shift capacitor

Does a compensation scheme eliminate the fundamental phase shift issue?

In this paper,based on the analysis of the fundamental phase shift issue for conventional OCC-based VIENNA rectifier with variable f_s/f_l under unbalanced grid conditions,a compensation scheme has been proposed to eliminate the fundamental phase shift.

How do you calculate a phase shift?

The calculations are best done in a spreadsheet, thereby determining an entire pre-calculated table. The tolerance of the CT phase shift must be known to determine the maximum and minimum phase shift. The phase shift step is chosen so that the error due to inexact compensation remains acceptable.

How do you determine the maximum and minimum phase shift?

The tolerance of the CT phase shiftmust be known to determine the maximum and minimum phase shift. The phase shift step is chosen so that the error due to inexact compensation remains acceptable. For example,if the step size is 0.1 and the minimum power factor is $\cos(60) = 0.5$,the maximum error is $1 - [\cos(60 +0.1) /\cos(60)]= 0.3\%$.

How to reduce the fundamental phase shift between input and corresponding voltage?

The proposed method can reduce the fundamental phase shift between the input current and corresponding phase voltage effectively,by dynamically modifying three-phase modulation signalswith the complex vector grid currents feedback.

Can a CT with a large phase shift be compensated?

CTs with a large phase shift can still be compensatedand calibrated provided they exhibit a mean phase shift with an acceptable range of deviation. This kind of CT can be compensated first with an FIR designed for a mean phase shift h under UPF calibration.

What is a phase shift step?

The phase shift step is chosen so that the error due to inexact compensation remains acceptable. For example,if the step size is 0.1 and the minimum power factor is $\cos(60) = 0.5$,the maximum error is $1 - [\cos(60 +0.1) /\cos(60)]= 0.3\%$. To minimize the program code size and the search time,an implicit table for E(P) can be used.

LECTURE 130 - COMPENSATION OF OP AMPS-II (READING: GHLM - 638-652, AH - 260-269) INTRODUCTION The objective of this presentation is to continue the ideas of the last lecture on compensation of op amps. Outline o Compensation of Op Amps General principles Miller, Nulling Miller Self-compensation Feedforward o Summary

Compensation method of phase shift capacitor

This paper presents a study of the impact of UHV transmission line characteristics on line differential protection and a proposed solution based on compensation of the phase shift that ...

Abstract: This paper presents an improved phase-shift control method for a switched-capacitor-based resonant converter. Compared with the traditional phase-shift control, the proposed improved phase-shift control method can not only achieve soft-switching operation, but also fast start-up transient. The qualitative analysis based on the state ...

In this paper, based on the analysis of the fundamental phase shift issue for conventional OCC-based VIENNA rectifier with variable f_s / f_l under unbalanced grid conditions, a compensation scheme has been proposed to eliminate the fundamental phase shift. The proposed method can reduce the fundamental phase shift between the input ...

This application report demonstrates a digital technique to compensate and calibrate the phase shift of a current (or voltage) transformer used in electric power or energy measurement. Traditional analog compensation is replaced by a digital finite impulse response (FIR) filter.

The whole power range is categorized into five zones based on the switching instant link current direction and the modified active power expressions with effect of dead time are derived for each zone. The novel compensation method for dead time improves the performance of any general optimized techniques for DAB with extended phase shift ...

This paper proposes a phase shift tuning and power flow control method for the EC-BWPT system based on a bilateral LCLC compensation network, which effectively solves the problem of coupling plate displacement or transmission distance change causing coupling capacitance changes and system transmission power changes. By adjusting the relative ...

DOI: 10.1109/AMC.2019.8371093 Corpus ID: 46935541; Dead time compensation for three-level flying capacitor inverter with phase shift PWM @article{Takahashi2018DeadTC, title={Dead time compensation for three-level flying capacitor inverter with phase shift PWM}, author={Hiroya Takahashi and Hidemine Obara and Yasutaka Fujimoto}, journal={2018 IEEE 15th ...

In this paper, based on the analysis of the fundamental phase shift issue for conventional OCC-based VIENNA rectifier with variable f_s / f_l under unbalanced grid ...

If ? 0 -? <?<? 0, phase shift angle is set to ?=? 0 -?; if ? 0 <?<? 0 +?, phase shift angle is set to ? = ? 0 + ?. The value of ? can be determined based on the specific application scenario. 4 COMPREHENSIVE COMPENSATION SCHEME FOR CO-PHASE POWER SUPPLY APPLYING CPCD 4.1 Topology of CPCD

Compensation method of phase shift capacitor

To solve the problem of negative-sequence and reactive power in electrified railway, this paper proposes a comprehensive compensation method based on V/v transformer and electromagnetic single-phase var compensator (ESVC) for co-phase power supply.

To solve the problem of negative-sequence and reactive power in electrified railway, this paper proposes a comprehensive compensation method based on V/v transformer and electromagnetic single-phase var compensator ...

This study proposes a novel method to compensate phase shift angle of dual active bridge (DAB) converters by considering the parasitic capacitance of SiC metal-oxide-semiconductor field-effect transistors (MOSFETs). In general, the DAB converter bidirectionally transfers power between the primary and secondary sides using a phase shift angle. The ...

This paper presents an improved phase-shift control method for a switched-capacitor-based resonant converter. Compared with the traditional phase-shift control, the proposed improved phase-shift control method can not only achieve soft-switching operation, but also fast start-up transient. The qualitative analysis based on the state plane proves that the convergence of the ...

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current-mode control methods with slope compensation can be applied, to prevent transformer saturation. However, blocking capacitors increase the material cost and make the power stage ...

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