

عنوان مقاله:

A New Scheme for Detection and Compensation of Current-Transformer Saturation

محل انتشار:

دومین کنفرانس بین المللی مهندسی برق (سال: 1396)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Seyed Hamid Abbasnia - *Department of electrical engineering, Lahijan Branch, Islamic Azad University, Lahijan, Iran*

Hossein Mahdinia - *Department of electrical engineering, Lahijan Branch, Islamic Azad University, Lahijan, Iran*

خلاصه مقاله:

Current-transformer (CT) is prone to the saturation during the power system faults. The CT saturation may result in malfunction of the protection relays. Nowadays the accurate detection and compensation of the saturation with the use of digital-signal-processing techniques is requested increasingly. This paper presents a new scheme for CT saturation detection and compensation. The first part of the proposed algorithm uses the derivatives of the secondary current signals to estimate the start and the end point of the CT saturation. In the second part, a compensation method based on the modified discrete Fourier transform is proposed to reconstruct the saturated samples. In order to suppress the probable noise and harmonics, a low pass Butterworth filter is used. The performance of the proposed method is evaluated by considering different values of remanent flux, fault type, fault inception angle, decaying DC component of fault current and noise. The obtained results show the effectiveness of the proposed scheme in different conditions

کلمات کلیدی:

Current-transformer (CT), saturation, waveform compensation, simulation

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/698451>

