

ABSTRACT :

In this paper, a differential protection using second harmonic restrain and fifth harmonic block schemes for power transformer protection is presented. First we review the concept of differential protection, and describe the magnetizing inrush current and over-excitation phenomena as they belong to the causes of the protection mis-operation. Second, we investigate harmonic restrain scheme and microprocessor based-protection on power transformer differential protection. Finally the relay logic and the algorithm that uses Discrete Fourier transformer for extraction of fundamental and higher harmonics components of differential current are presented.