عنوان مقاله:

Internal Protection of Transformer Windings Against Transeint Surges Using ZnO Varistors

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خلاصه مقاله:

Power system overvoltages due to switching, lightning and other disturbances are the main problem for designers of the power transformers. Once some frequencies of the incoming surges match with some of the natural frequencies of transformer winding, the resonance phenomenon is expected in transformer winding. The resonant overvoltages may destroy the insulation between turns and cause to insulation failure or transmformer damage. In this paper, the transformer winding is modeled based on the lattice diagram concept with variable parameters and the IEEE model of surge arresters has been utilized in order to perform the simulations. For internal protection of transformer windings, it is assumed that ZnO varistors are installed in parallel to the winding turns. Also the effect of ZnO varistors in reducing the voltage stress across the transformer winding has been investigated for the case of grounded and insolated nutral winding.

کلمات کلیدی:

Zno oxide arrester, transient stresses, internal protection, transformer winding