

- c) **Magdy B. Eteiba, Mohamed Mamdouh Abdel Aziz, and Jehan Hassan Shazly, "Sensitivity of Steady State Temperatures of SF₆ Gas Cooled-Insulated Power Transformers to Selected Parameters", IEEE, Trans. On Power Delivery, Vol. 24, No. 33, pp. 1240-1248, July 2009.**

The effects of cooling methods, gas pressure, gas velocity, electrical loading, and environmental parameters on the steady state temperature distribution of SF₆ gas cooled-insulated power transformer are investigated using the finite element method. The contributions of both convection and radiation to the total heat transfer rate inside and outside the transformer are included. The results provide useful sensitivity information which can be accessed and manipulated by the transformer designers or operators. This sensitivity information reduces significantly the analysis and computations via identifying the important parameters that most affect the temperature distribution in this type of transformers.