

AC induction motors (IM) are used in many industrial applications. However, induction motors can only run at their rated speed when they are connected to the main balanced power supply. This is the reason why variable frequency drives are needed. The most popular control of a three-phase induction motor is the V/f (voltage/ frequency) control approach using a Pulse-Width Modulation (PWM) technique to drive a voltage-source inverter (VSI). when induction motors are fed from PWM inverter they will be fed by nonsinusoidal voltage supply , Under such operating conditions the motor performance can be seriously affected by presence of harmonic , various motor configurations are used and new definitions and conditions are employed in order to quantify the additional harmonic copper losses and to compute the resistance and inductance frequency dependent (skin effect)