The paper proposes a novel method for improving performance of a Three Phase wound rotor induction motor using an indirect reactive current control scheme in the rotor. A 3 phase VSI with a dynamic capacitor is connected in the rotor circuit for controlling the reactive current in the rotor. The dynamic capacitor is an H-bridge switch with a capacitor in which the duty ratio of the H-bridge circuit is varied in order to change the capacitance value dynamically. The proposed technique is simulated in MATLAB 7.6 / Simulink environment. The result that obtained from the proposed method is compared with secondary impedance control scheme and the performance parameters such as the torque, power factor and efficiency are obtained. In addition to improving performances, as the proposed method uses only one capacitor in the rotor where as against three capacitors are used in the rotor impedance control scheme. The result has shown improved performance and cost effective by the proposed scheme.

Reference
- Dr. Saeed lesan and William shepherd, “Control of Wound rotor induction motor with rotor impedance variation”, IEEE Trans, 1993

**Index Terms**

Computer Science  
Control Systems
Key words

Wound rotor Induction motor
VSI with dynamic capacitor
rotor impedance control
H-bridge Capacitor switch