

## Direct Torque Control of Induction Motor Employing Teaching Learning Based Optimization

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**Abstract :** The undesired torque and flux ripple may occur in conventional direct torque control (DTC) induction motor drive. DTC can improve the system performance at low speeds by continuously tuning the regulator by adjusting the  $K_p$ ,  $K_i$  values. In this Teaching Learning Based Optimization (TLBO) is proposed to adjust the parameters ( $K_p$ ,  $K_i$ ) of the speed controller in order to minimize torque ripple, flux ripple, and stator current distortion. The TLBO based PI controller has resulted in maintaining a constant speed of the motor irrespective of the load torque fluctuations.

**Keywords :** teaching learning based optimization, direct torque control, PI controller

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