

Third Harmonics Torque through Two or Four-Phase Windings

Disclosure Number

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Technology Summary

This invention provides an alternative option to increase the power density by the additional smooth third-harmonic torque. This invention disclosure illustrates that by using a simpler two-phase or four-phase machine instead of five-phase the stator third-harmonic currents can produce an air-gap third-harmonic rotating ampere-turns of the same rotating speed as the rotating field produced by the stator fundamental currents. This third-harmonic rotating field would interact with the rotor third-harmonic flux to produce the additional torque.

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