

# FEM-based Analysis on the Operation of Three-Phase Induction Motor connected to Six-Phase Supply System

## Part 2 – Study on fault-tolerance capability

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**Abstract**—Based on the fact that the three-phase induction machine proves higher performance under six-phase supply, which was demonstrated in Part 1 of the paper, this work investigates the fault-tolerance capability of the six-phase structure with asymmetrical configuration (30° phase shifting both for space and time conditions). It is taken into discussion the cut-off of one, two and three phases respectively. The study is carried through FEM simulations under steady-state and transient conditions.

**Keywords**—three-phase induction motor; six-phase supply system; fault-tolerance; FEM analysis

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