

**Title:** Stator field-orientation speed control for 3-phase induction motor under open-phase fault

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**Abstract:** The industrial requirements for the control of an induction motor (IM) under fault conditions continue to be of attention, as evidenced by the majority current publications. The focus is on developments of control methods which can be used for faulty IM. A novel vector control technique based on stator field-oriented control (SFOC) for a 3-phase IM under open-phase fault is proposed in this paper. MATLAB simulation results are presented to illustrate the improvement in performance of the proposed algorithm. It has shown that for providing an appropriate algorithm to control faulty machine with one opened phase, the modification in the conventional controller is possible.