Three-Phase Modulated Pole Machine Topologies Utilizing Mutual Flux Paths - DTU Orbit
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This paper discusses three-phase topologies for modulated pole machines (MPMs). The authors introduce a new three-phase topology, which takes advantage of mutual flux paths; this is analyzed using 3-D finite-element methods and compared to a three-phase topology using three single-phase units stacked axially. The results show that the new "combined-phase MPM" exhibits a greater torque density, while offering a reduction in the number of components. The results obtained from two prototypes are also presented to verify the concept; the results show that the "combined-phase" machine could provide both performance and constructional benefits over prior MPM topologies.

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