

PERFORMANCE CHARACTERISTICS OF HIGH-SPEED LOW-POWER INDUCTION MOTORS

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ABSTRACT *The paper presents operational characteristics of a small induction motor with the stator core made of amorphous laminations, supplied from mains or frequency inverter at 100 and 200 Hz. Calculations were performed using field-circuit and equivalent circuit approaches taking account of non-linearity and additional losses both in the core and in the windings. Data for mechanical losses, magnetisation curve and magnetic losses of the amorphous material was obtained experimentally; magnetic measurements were taken as a function of magnetic flux density in the frequency range up to 2,000 Hz.*

Keywords: *induction motors, core losses, finite element method, circuit modelling*