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COMPARISON OF NUMERICALLY DETERMINED NOISE OF A 290 KW INDUCTION MOTOR USING FEM AND MEASURED ACOUSTIC RADIATION

In this paper a comparison of numerically determined and measured electromagnetically excited noise of an induction motor is presented. The calculations are accomplished using FEM for an example motor, which is a 290 kW inverter-fed asynchronous machine. The approach starts with the electromagnetic and mechanical consideration. The focus is set on acoustic considerations, which contain the 3D-FE-model and measurement setup in the sound chamber. The determination of the induction and force waves is presented using parts of the results. In the case of the mechanical modeling the three dimensional FE-model is shown.

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