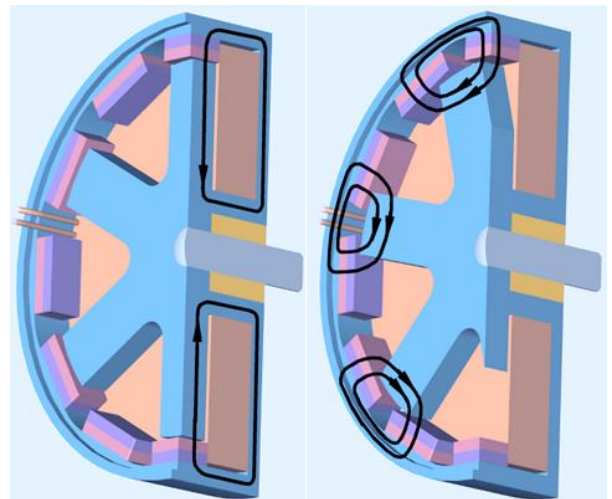


Miniaturized Claw-Pole Generators and Motors with High Power Density

Seminar lecture presented by M.Sc. Oliver Mönnich

Nowadays, there is an increasing demand for small electromagnetic generators to power electronic devices. In electronic door locks the mechanical energy provided by pressing down the door handle can be used to power the internal circuit of the lock, for example. For this application, an innovative generator based on claw-pole topology was developed, optimized and built at the department of Electromechanical and Optical Systems at Technische Universität

Berlin. Effort was concentrated on the reduction of cogging torque using finite-element techniques. The generator features simple design and a small number of parts, providing



for easy manufacturing with conventional processes. Extending the system to two electrical phases, the generator can also be applied as a motor. It turned out that its power density can compete with available motors on the market. This talk will be presented at the 14th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM 2014) in Brasov, Romania.

