Magnetic fluid bearings & seals

Methods, design & application

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Propositions

accompanying the dissertation

Magnetic Fluid Bearings & Seals: Methods, Design & Application

by

Stefan Georges Emile Lampaert

1. Defining the intended goal constrains the solution space.
2. Increasing the academic appreciation of the transfer of research results to industry will remove the valley of death between university and industry.
3. New concepts provide solutions to as yet unknown problems.
4. Since a PhD project is about high quality work and since one can only do high quality work for a few hours a day, it does not make much sense to work more than 8 hours a day.
5. Magnetic fluids are not often used in mechanical systems since it requires the designer to have knowledge in mechanics, fluid dynamics and magnetics.
6. The increasing number of engineers working in the field of mechatronics increases the number of people that have the right skillset to design magnetic fluid bearings.
7. The ferrofluid bearing is a cost-effective alternative for an air bearing. *("This proposition pertains to this dissertation.")*
8. The ferrofluid seal provides a solution for leaking stern tubes. *("This proposition pertains to this dissertation.")*

These propositions are regarded as opposable and defendable, and have been approved as such by the promotor(s) Ron A.J. van Ostayen and Jo W. Spronck