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Controlled magnon spin transport in insulating magnets

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PROPOSITIONS

accompanying the dissertation

Controlled magnon spin transport in insulating magnets – From linear to nonlinear regimes

1. On the spectra between confidence and arrogance as well as individualism and selfishness, people draw their lines differently. Cultural awareness and mutual respect are the keys to work and live efficiently and effectively in a multi-cultural environment.
2. The Anna Karenina principle is: *“Happy families are all alike, every unhappy family is unhappy in its own way.”* For an experimentalist who wants to plan an experiment in a complex system: Successful experimental set-ups are all alike, every unsuccessful one makes mistakes in its own way. However, some “unintentional mistakes” can lead to interesting or even profound discoveries.
3. Being both precise and concise sounds contradictory, but this is the balance you have to find to convey any complex information.
4. Doing research is like building a house, while giving a scientific presentation is like showing the house to a visitor: Even though you need a scaffolding to complete the job, when you show the result to someone, you need to guide them through the door and not let them climb the scaffolding with you.
5. Analogy, as a cognitive process, is highly appreciated when one learns a new subject which shares similar characteristics with a known subject. Magnon spin transport shares analogous diffusion-relaxation transport properties [*Chapter 5*] and anisotropic magnetotransport characteristics [*Chapter 4*] with electron spin transport, despite their different particle statistics.
6. Despite the lack of minimalistic appeal, nonlinear phenomena may give us the chance to have strong outputs with relatively small inputs [*Chapter 6*], and to learn more about the system or even to revise a related linear model [*Chapter 7*].
7. *“The deepest principle in human nature is the craving to be appreciated.”* --William James. Acknowledging your colleagues, be it scientists, engineers or administrators, does not take away anything from your glory. Acknowledging your family and friends, be it pleasant or difficult, from time to time, does not make life overly sugary but instead helps us learn and grow together.