



Open PhD Position Magnon-based data processing

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Faculty of Physics

The “Nanomagnetism and Magnonics” Research Group under the direction of Prof. Dr. Andrii Chumak at the Faculty of Physics, University of Vienna, is a young and ambitious team that conducts internationally leading research in the fields of spintronics and magnonics. The research scope of the group encompasses magnonics, magnon spintronics, quantum magnonics at low temperatures, magnon-based data processing, and nonlinear spin-wave phenomena in nanoscale hybrid systems. We are looking for a motivated prae-doc assistant (PhD student) to extend our team. The overall aim of the position is to perform cutting edge experimental studies of magnon-based data processing at the nano-scale. Typical examples of such investigations are a recently developed nano-scaled magnonic directional coupler [[Nat Electron 3, 765–774 \(2020\)](#)] and inverse-design magnonic devices [[Nat Commun 12, 2636 \(2021\)](#)]. The aim of the position assumes the prolongation of the research direction of a magnon beyond-CMOS operations with binary data [[Nature Physics 11, 453 \(2015\)](#)].

For further information please contact Andrii Chumak:
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Job Description:

- Mastering of modern techniques for the fabrication of magnetic nano-structures with lateral sizes below 100 nm using e-beam lithography techniques.
- Investigations of the developed structures using microwave technique and modern micro-focused Brillouin Light Scattering (BLS) spectroscopy.
- Fabrication of nano-structures, performing experimental measurements, collection and analysis of new data.
- Publication and presentation of scientific results in peer-reviewed journals and at international conferences and workshops.
- Check our YouTube presentation of the position [here](#).

Profile:

- Master or Diploma in Physics. Desirable: Listened lecture course on solid-state physics, magnetism or spintronics is desirable.
- Affinity for practical work and cooperation in a multidisciplinary team.
- Initiative in finding solutions for scientific problems.
- Excellent command of written and spoken English.

DEADLINE 30/09/2021

Duration of employment: 3 year/s with probable extension to the 4th year

Extent of Employment: 30.0 hours/week

Job grading in accordance with collective bargaining agreement: §48 VwGr. B1 Grundstufe (praedoc) with relevant work experience determining the assignment to a particular salary grade.

Applications including a letter of motivation, academic curriculum vitae, list of publications, evidence of teaching experience (if available), degree certificates (German or English) should be submitted to office.nanomag@univie.ac.at

