

Supervisor's report

In Brno, December 14th, 2020

Academic year: 2020/2021

Study programme: Advanced materials and nanosciences

Field of study: Advanced nanotechnologies and microtechnologies

Student: Marek Vaňatka

Topic: Static and dynamic properties of nanostructured magnetic materials

Marek is a very good student with excellent results. He is a very talented experimentalist, during his PhD he mastered a huge range of skills (electron beam lithography, transport measurements, transmission electron microscopy, and many others). When motivated, he delivers results amazingly fast and of high quality.

In his PhD thesis, he focuses on investigating static and dynamic properties of nanostructured magnetic materials, nucleation modes of magnetic vortices, magnetic vortex resonances, and spin-wave dispersion measurements. His contribution to the PhD project was as broad and complex as the topic. Marek was preparing samples, performing microscopy measurements, electrical measurements, micromagnetic simulations and complex data evaluations. The direct outputs of the PhD project were summarized in four publications and seven conference contributions. Besides his main PhD topic, Marek also contributed to many other projects resulting in additional publications.

In summary, during his PhD study, Marek always performed very well, and the findings of his PhD project are nicely summarized in his thesis. He published 13 publications in impacted journals with three of them as the first author during his studies. Marek has proved his abilities for independent creative scientific work, and therefore I recommend his work for defence and for awarding him the PhD title.

Michal Urbánek - supervisor