

Assessment on Mgr. Martin Míšek

I know Martin Míšek since 2005, when he started to work in our department as a bachelor student. The original goal of his bachelor thesis was a study of possible pressure induced appearance of superconducting state in one specific compound. In that time, the superconducting state in that compound was not confirmed, but during the work Martin Míšek got basic knowledge about pressure cells and measurement of physical properties in hydrostatic pressure. This subject attracted Martin so much that he continued to work with pressure cells also during his master and PhD studies. In the course of time, the existing equipment in our department became insufficient to Martin and he initiated further development of pressure experimental techniques. I am very happy that at the very end of his PhD studies, after investigation of many other interesting compounds and phenomena, he finally studied also the pressure induced superconductivity, namely the properties of Ce_2PtIn_8 .

Martin Míšek contributed significantly to the development of pressure experiments in our laboratories. He implemented here the pressure measurements of the ac-susceptibility and heat capacity, participated substantially in construction of new high-pressure cells for magnetization measurements and for measurements of uniaxial pressures. I think that a large part of these instrumental development would not be realized until now without his activities. The new equipment was usually constructed with a vision of application for certain specific compound, to study certain specific physical phenomena. In his work particularly appear two compounds: ErCo_2 and UNiGa . The investigation of these two compounds constitutes the main part of his thesis. I should stress, however, that Martin took part also in measurements of several other materials, which do not appear in the thesis to keep it in reasonable length.

I very appreciate also the skillfulness and patience that are absolutely necessary when preparing and performing pressure experiments. To get good experimental data, one needs much more effort and time than by standard measurements. I believe that we will benefit from his results also in the future when using the pressure equipment and I also believe that Martin will be help to us for the measurements and for introducing new students to the secrets of pressure experiments.

The results of his work Martin Míšek presented in 14 original papers in peer-reviewed journals and on many international conferences. I believe that he will successfully defend his PhD thesis and will continue in research activities.