Erasmus+ Summer Traineeship Prague 2020

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CHARLES UNIVERSITY



Introduction

- The traineeship absolved at Charles University, Faculty of Mathematics and Physics, Department of Condensed Matter Physics
- The second traineeship already absolved at this department (the first one in 2019)
- My work was focused on the study of magnetism in uranium compounds
- The traineeship included preparation of the samples, structural analysis and measurements of the physical properties like magnetization, heat capacity or electrical resistivity
- The results presented on the physical conference in Prague (poster)
- This research is also the topic of my diploma's thesis
- The results are planed to be published in physical journal
- The experiments were carried out at MGML









Preparation of the single crystals by Czochralski method

- We prepared different compositions of single crystals of the UCo1-xlrxGe series
- The process of the growing of the one crystal took around 8 hours

Me and my supervisor RNDr. Jiri Pospisil, PhD.



Structural analysis

- We performed powder diffraction in order to established lattice parameters
- For orientation of the single crystals we used Laue diffractometer
- Chemical compositions were checked out by electron scan microscope and EDX detector





Measurements of the physical properties

- The measurements of the physical properties were performed at standard PPMS 9T and MPMS 7T.
- The experiments were done in the temperature range 300-2 K and in magnetic filed range 0-9(7) T



Presentation of the results

 Our results were presented on 20th
Conference of Czech and Slovak Physicists in Prague (Poster)





Life in Prague

- Prague is very gorgeous city offering a lot of opportunity
- There are a lot of amazing historical places and monuments
- People are friendly and a beer is the best on the world
- I visited Troja Château, botanic and Zoo garden, old town hall Prague....





Thank you for watching