

19th NARECOM – NAnoEnviCz REsearch COmmunity Meeting

14th SEptember 2022 from 2:30 p.m.

**Mössbauer spectroscopy and its practical application**

**Ing. Michaela Polášková**

*Department of Experimental Physics, Faculty of Science, Palacký University Olomouc, 17. listopadu 1192/12, 771 46 Olomouc, Czech Republic*

*Czech Advanced Technology and Research Institute - Regional Centre of Advanced Technologies and Materials, Palacký University in Olomouc, Šlechtitelů 27, 783 71, Olomouc, Czech Republic*

**Abstract:**

Mössbauer spectroscopy is a unique method for straightforward observation of the structural and magnetic properties of the studied material. The method is based on the Mössbauer effect. The measurements result in spectra that reflect the local surroundings of the element under investigation through so-called hyperfine interactions, which influence the arrangement of the nuclear levels of the element under investigation. These spectra can be measured under a variety of conditions, but generally at very low temperatures and very strong external magnetic fields, the Mössbauer effect is more observable and the spectra more readable. This lecture describes the Mössbauer effect, the principle of measurement and some examples of measured spectra are also ilustrated.

