Magnetism of multiferroic materials seen by Mössbauer spectroscopy
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Multiferroic materials containing iron ions attract much attention of scientists due to their unusual magnetic structure, including collinear and non-collinear spin arrangement, and possessing magneto-electric coupling. Magnetism of multiferroics primarily depends on peculiarities of the electronic structure and crystal local environment of iron ions. Thus, \(^{57}\)Fe Mössbauer spectroscopy is one of the most powerful tools for studying multiferroic materials. In the presentation, the examples of Mössbauer studies for ABO\(_3\) perovskite-like oxides (i.e., Aurivillius Bi\(_{m+1}\)Ti\(_3\)Fe\(_{m-3}\)O\(_{3m+3}\) compounds, (1-x)BiFeO\(_3\)-(x)BaTiO\(_3\) and Bi\(_{1-x}\)Nd\(_x\)FeO\(_3\) solid solutions) and ABO\(_2\) delafossite-like oxides (i.e., AgFeO\(_2\) and CuFeO\(_2\)) will be shown and discussed.