



P46. Synthesis of BiFeO_3 and $\text{Bi}_{0,9}\text{Sm}_{0,1}\text{FeO}_3$ films by Sol-Gel method

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BiFeO_3 and $\text{Bi}_{0,9}\text{Sm}_{0,1}\text{FeO}_3$ thin films by sol-gel method were synthesized and the influence of features of sol-gel method and the heat treatment were investigated. Salts of metals, ethylene glycol, citric acid, ethylenediamine were used for the films synthesis. XRD of BiFeO_3 and $\text{Bi}_{0,9}\text{Sm}_{0,1}\text{FeO}_3$ thin films prepared by sol-gel method were analyzed by PDF cards Nr. 01-080-3412 and Nr. 01-078-6349.

As can be seen from the XRD data, the BFO and BFSO reaction products are not monophasic. The doping by samarium leads to the decrease in the content of the perovskite phase due to disruption of the perovskite-type lattice structure by the samarium ion, which is much larger than the other ions that form the crystal lattice.

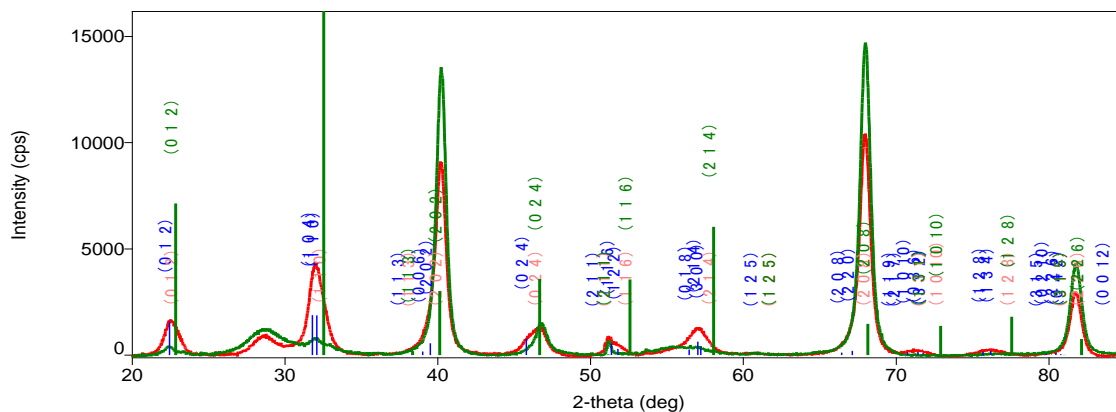


Figure 1 - XRD of BiFeO_3 (green) and $\text{Bi}_{0,9}\text{Sm}_{0,1}\text{FeO}_3$ (red) thin films prepared by sol-gel method

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