

Synthesis and Structure of Perovskites-Like Materials

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Nowadays the basic task of the physical material science is developing and searching of the materials for generational devices energy accumulation. Perovskites-like materials is a break for solar batteries and are used as cathode material for solid fuel elements, and also perovskites-like materials can be used as anodic and cathode material for lithium source current. The main advantage of such structure is its low cost which can decrease the common price in 5-8 times in solar batteries comparing with silicon basic analogue.

The samples were synthesized with the aim to research the structure on the basis of perovskite LaXO_3 , $X = \text{Fe, Ni, Co, Cr}$ by sol-gel method with auto burning. The initial materials for the synthesis were nitrates' crystal hydrates of the appropriate metals. Citric acid was used as complex formation. After synthesis, the gained materials as powder were researched by means of the X-rays diffractometer to check their structure and belonging to the perovskites structure.

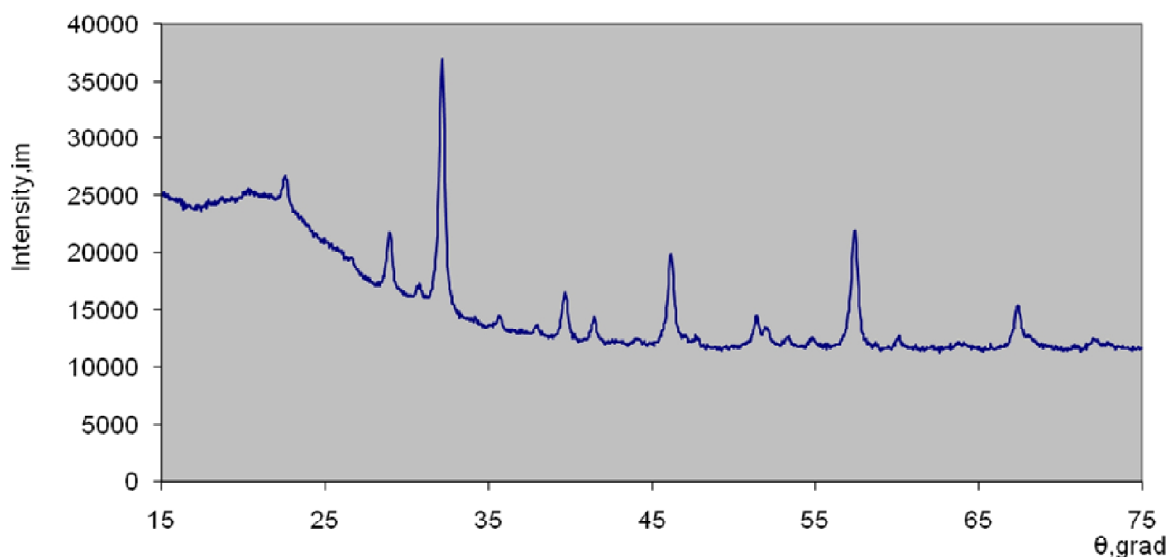


Fig.1. Radiograph LaFeO_3 of perovskites structure.

There is radiograph of the perovskites structure LaFeO_3 as an example. Decipher figures showed that in all cases nanosized materials were gained from perovskites structure. Afterwards all gained materials will have checking for operational capability as cathode material for the lithium source current, and they will be use for the film production as material for solar batteries.