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YOUNG SCIENTISTS in CERAMICS**

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OA-4

**SYNTHESIS, STRUCTURAL AND MAGNETIC PROPERTIES OF
 $Y_{1-x}Yb_xF_3$ SOLID SOLUTION**

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Many works devoted to obtaining nanodispersed BaTiO₃ powder modified with different dopants for suitable properties providing. In particular, recently considerable attention has been given to obtaining modified nanopowders BaTiO₃ possessing relaxor behavior order to ensure reliable work of dielectrics. Generally, Ca,Zr,Mn, Pb and rare earth elements such as Nb,Y adds order to provide stress, inhibit grain growth and provide Pinching effect, and hence to increase dielectrics relaxor behavior.

However, there is still an issue associated with obtaining satisfactory stoichiometry of the obtained powder. From this viewpoint Ca,Zr-doped BaTiO₃ were prepared with co-precipitation method via multiligand complexes formation and influence of the precursor type on Ca,Zr-doped BaTiO₃ stoichiometry were investigated. Their stoichiometry, crystal structure was examined in order to determine preferential solubility site of Ca,Zr ions in perovskite structure. Stoichiometry Ca,Zr-modified BaTiO₃ will be evaluated considering different precursor type. X-ray, IR spectroscopy and X-ray fluorescence analysis were carried out to obtain the knowledge on the occupation site in the Ba_{1-x}Ca_xTi_{1-y}Zr_yO₃ perovskite structure. These results proved influence complex formation on Ca,Zr-modified BaTiO₃ stoichiometry.