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Etude structural et caractérisations des céramiques PZT de type pérovskite $\text{Pb}_{1-x}\text{Ca}_x[(\text{Zr}_{0.53}, \text{Ti}_{0.47})_{0.75}\text{Sb}_{0.25}]\text{O}_3$

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Abstract : Lead zirconate titanate are prepared from an intermediate composition of a binary mixture of PbTiO_3 and PbZrO_3 in the region of coexistence, the morphotropic phase boundary. The mixture of PbO_2 , TiO_2 , and ZrO_2 was characterized using x-ray diffraction. The solid solution $\text{Ca}_x\text{Pb}_{1-x}[(\text{Zr}_{0.53}, \text{Ti}_{0.47})_{0.75}\text{Sb}_{0.25}]\text{O}_3$ with $0 \leq x \leq 0.05$ is investigated at the morphotropic phase boundary, where both phases coexist, tetragonal and rhombohedral. The morphology and size of ceramic grains is investigated using scanning electron microscopy and x-ray diffraction

Keywords : PZT, Doping, characterization, Morphotropic phase boundary, X-ray diffraction