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Etude structural et caractérisations des céramiques PZT de type pérovskite $Pb_{1-x}Ca_x[(Zr_{0.53}, Ti_{0.47})_{0.75}Sb_{0.25}]O_3$

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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 $CaxPb_{1-x}[(Zr_{0.53}, Ti_{0.47})_{0.75}Sb_{0.25}]O_3$ 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