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Abstract

$K_{0.5}Na_{0.5}Nb_{1-x}Ta_xO_3$ (KNNT) (with $x = 0.00, 0.05, 0.10, 0.20, 0.30, 0.50$ and 1) ceramics are prepared by ball milling and two calcinations at $830\text{ }^{\circ}\text{C}$ for 5 hours. Subsequent sintering of centimeter size pellets, 1-2 mm thick, is studied using conventional and spark plasma sintering techniques with various conditions. X-Ray diffraction and Raman spectroscopy phase identification reveal orthorhombic to tetragonal phase transitions occurring at about $x = 0.50$, associated to chemical disorder. Scanning

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