# Impedance Spectroscopy Study of $Ba(Me_{1/3}Nb_{2/3})O_3$ (Me=Zn and Co) Microwave Ceramics

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**Abstract:**

The electrical properties of $Ba(Me_{1/3}Nb_{2/3})O_3$ (Me=Zn and Co) ceramics were investigated by impedance spectroscopy in the temperature range of 20-800ºC. The data from $Ba\{(Co_{0.7}Zn_{0.3})_{1/3}\ Nb_{2/3}\}O_3$ (BCZN) ceramics showed a semicircle in the high frequency region corresponding to the grain properties of the ceramic, followed by a second semicircle attributed to the grain boundary properties. Both bulk and grain boundary conductivity of BCZN ceramics follow an arrhenius low with activation energies of 0.77 and 0.88 eV respectively.