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标题: Ba(Zn_{1/3}Ta_{2/3})O-3 perovskite ceramics doped with Nb⁵⁺, Ce⁴⁺ or Yb³⁺

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摘要: Ba(Zn_{1/3}Ta_{2/3})O-3 (BZT) perovskite material has stimulated a large interest due to its excellent dielectric properties in microwave frequency range, enabling the miniaturization of communications devices. In this work, BZT ceramics were prepared by the conventional solid-state reaction method, being doped with Nb⁵⁺, Ce⁴⁺ or Yb³⁺. BZT resonators were compositional, structural, morphological and electrical characterized. The influence of the dopants and sintering temperature on the microwave dielectric properties of BZT samples was investigated. The resonator doped with 0.5 mol% Nb₂O₅ and sintered at 1600 degrees C / 2 h exhibits the best dielectric behaviour: $\epsilon(r)$ similar to 25.9 and Qxf similar to 159 THz.

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