

Textured $\text{Ca}_3\text{Co}_4\text{O}_9$ thermoelectric oxide by thermo-forging process

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Abstract : Dense $\text{Ca}_3\text{Co}_4\text{O}_9$ (Co349) thermoelectric oxide have been successfully formed by sinter-forging process. The various parameters influencing the formation of the texture Co349 material have been investigated. The electrical transport measurements show an anisotropy of the resistivity up to $\rho^c/\rho^{ab} \sim 4$, in good agreement with scanning electron microscopy analyses. Texture was evidenced by X-ray diffraction patterns and neutron measurements. The details of processing and characterization are highlighted.

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