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低温热处理制备立方相纳米 $(ZrO_2)_{0.9}-(CaO)_{0.1}$ 粉末

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Preparation of Cubic Nano-Powder $(ZrO_2)_{0.9}-(CaO)_{0.1}$ Powder by Low Temperature to Calcine Method

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摘要 以 $ZrOCl_2$, $Ca(NO_3)_2$ 和 $NH_3 \cdot H_2O$ 为原料, 用液相化学共沉淀法制备 $(ZrO_2)_{0.9}-(CaO)_{0.1}$ 粉末, 经过 $600\text{ }^\circ\text{C}$ 热处理, 用 TEM 观察形貌, BET 测定粒子尺寸, XRD 和 Raman 光谱分析相结构. 结果表明: 粉末样品的粒径为 8.9 nm , 晶粒表现为 0.5 nm 的立方相结构.

关键词: $(ZrO_2)_{0.9}-(CaO)_{0.1}$ 纳米粉末 立方相

Abstract: With zirconium oxychloride, nitrate of lime and ammonium as the raw materials, nanometer-sized powder of $(ZrO_2)_{0.9}-(CaO)_{0.1}$ was prepared by chemical coprecipitation method under the doping of nitrate of lime and $600\text{ }^\circ\text{C}$ to calcine. The grain was tested by the TEM and BET analysis, and phase structure was analysed through XRD and Raman spectrum. All the results indicated that the powder's particle size is 8.9 nm and cubic crystal particle is 0.5 nm .

Key words: $(ZrO_2)_{0.9}-(CaO)_{0.1}$ nano-powder cubic phase

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