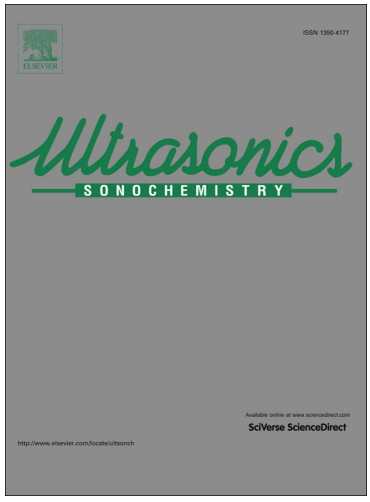

Short communication

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Short Communication

Highly transparent cerium doped gadolinium gallium aluminum garnet ceramic prepared with precursors fabricated by ultrasonic enhanced chemical co-precipitation

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Abstract:

Cerium doped gadolinium gallium aluminum garnet (GGAG:Ce) ceramic precursors have been synthesized with an ultrasonic chemical co-precipitation method (UCC) and for comparison with a traditional chemical co-precipitation method (TCC). The effect of ultra-sonication on the morphology of powders and the transmittance of GGAG:Ce ceramics are studied. The results indicate that the UCC method can effectively improve the homogenization and sinterability of GGAG:Ce powders, which contribute to obtain high transparent GGAG ceramic with the highest transmittance of 81%.

Keywords: Ultra-sonication; Garnet transparent ceramic; Homogenization; Sinterability; High transmittance