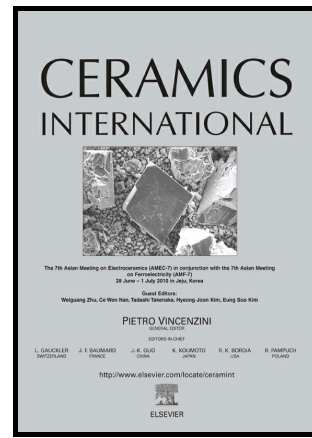


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Enhanced high-temperature dielectric properties and microwave absorption of SiC nanofibers modified Si₃N₄ ceramics within the gigahertz range

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Abstract

Si₃N₄ ceramics modified with SiC nanofibers were prepared by gel casting aiming to enhance the dielectric and microwave absorption properties at temperatures ranging from 25 °C to 800 °C within X-band (8.2-12.4 GHz). The results indicate that the complex permittivity and dielectric loss are significantly increased with increased weight fraction of SiC nanofibers in the Si₃N₄ ceramics. Meanwhile, both complex

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