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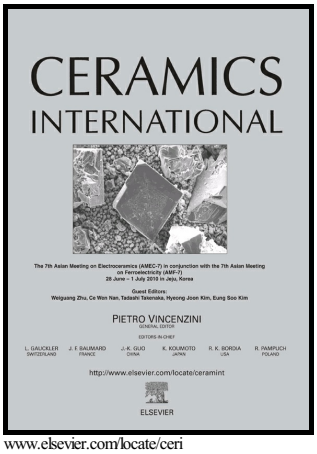

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Assembled porous Fe_3O_4@g-C_3N_4 hybrid nanocomposites with multiple interface polarization for stable microwave absorption

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Abstract

Magnetic/dielectric composites can offer good electromagnetic impendence. However, the strategy for embodying strong absorbing ability and broad effective absorption band simultaneously is a significant challenge. Therefore, assembled porous Fe_3O_4@g-C_3N_4 hybrid nanocomposites have been designed and synthesized, in which porous Fe_3O_4 nanospheres assembled by ~3 nm Fe_3O_4 nanoparticles are surrounded by g-C_3N_4. The introduction of g-C_3N_4 improves dielectric loss ability at 2-18 GHz and magnetic loss ability at 2-10 GHz, and enhances attenuation constant, and increases electromagnetic impedance degree. These merits ensure that assembled