

عنوان مقاله:

SYNTHESIS AND MICROWAVE ABSORPTION PROPERTIES OF FLOWER LIKE $Ba(CO_3)_2$ IONIC LIQUID NANOCOMPOSITES

محل انتشار:

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خلاصه مقاله:

Radar absorbing materials (RAMs) are widely used in commercial and military applications. RAMs are made with compounds having a high loss energy, which enables them to absorb the incident radiation in synchronized frequencies and dissipate it as heat. Flower like $Ba(CO_3)_2$ are prepared by ionic liquid hydrothermal method. The carbonyl iron powder is prepared via thermal decomposition of iron pentacarbonyl. Then $Ba(CO_3)_2$ and ionic liquid composite with different mixture ratios was prepared using the as-prepared material. The structure, morphology, and properties of the composites are characterized using Fourier transform infrared spectroscopy (FTIR), X-ray diffraction, scanning electron microscopy (SEM), and a network analyzer. The effect of the mass ratio of $Ba(CO_3)_2$, Ionic liquid on the microwave loss properties of the composites is investigated. A possible microwave absorbing mechanism of $Ba(CO_3)_2$ ionic liquid composite has been proposed. The $Ba(CO_3)_2$ ionic liquid composite can find applications in suppression of electromagnetic interference, and reduction of radar signature.

کلمات کلیدی:

Radar absorbing materials; ionic liquid General Appearance

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