PENINGKATAN SIFAT MAGNETIK MATERIAL HEMATIT MELALUI SUBTITUSI BARIUM DAN KONTROL TEMPERATUR SINTERING

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Abstract	Ferrite magnet or ceramic magnet is a competitive product in the magnet market due to low price, corrosion resistant and chemically stable. Barium hexa-ferrite magnet is one of ferrite magnet which is mostly used as magnetic storage and electronic devices based on nanotechnology. Barium hexa- ferrites are synthetized through solid state reaction method at sintering temperatures of 1100 Ãƒ Â,Ã,Â°C with the composition (100-x)Fe2O3 : xBaCO3 , where x = 0 and 20 in mol % . Results of XRD characterization show that the diffraction peaks of XRD spectrum is dominated by the peaks of barium ferrite crystal with a hexagonal crystal system. Magnetic properties of Fe2O3 material doped with barium carbonate of 20 mol % and sintered at 1100 Ãƒ Â,Ã,Â°C increase significantly compared to the others. This simple and inexpensive method is very promising for the manufacture of barium hexa-ferrite materials with natural ferrite as the main material.Keywords: Iron sand, barium ferrite, structure, magnetic properties
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