

TEM and XRD investigation of Fe₂O₃-Al₂O₃ system

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Abstract. A series of Fe₂O₃-Al₂O₃ mixed systems with composition ranging from 1 to 9% of Al₂O₃ were prepared by a traditional chemical method and examined for structural characteristics. XRD spectra and SAED patterns obtained from TEM investigations showed the presence of α - Al₂O₃ and α - Fe₂O₃ phases. The mean grain size of the crystalline aggregates in the system was calculated from BF-TEM images using the lognormal curve and verified with the Sherrer's formula applied on XRD diagrams, being established in the domain of 7-9 nm.

Keywords: oxidic system, BF-TEM, SAED, XRD
