Dedication

This work is dedicated to

My Motherand Father, My Sisters and Brothers, My Friends and professors.

Acknowledgement

First of All, I thank Allah for giving me the strength to finish this work.

My thanks goes to Sudan University of Science and Technology, and special thanks to College of Graduate studies for given me the chance to stablish this degree.

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Abstract

This Research highlights the importance of nanotechnology in all scientific issues, medical, industrial and other fields, this is due to the unique and distinctive new properties acquired by of nanoscale size. Also, the magnetic properties of iron (raw) were studied at different sizes. The samples were prepared; by crashing at different time intervals. Experiments were carried out on the samples and values were taken for the magnetic flux, when these samples were exposed to a detector (X-Met 5000) device at the Petroleum Technology Center (PTC) they found elements other than iron (Cr, Ni, Mo, Cu, W, V, Mn, Zr, Fe).

مستخلص البحث

بين هذا البحث أهمية علم النانو تكنولوجي في كافة المجالات العلمية والطبية والصناعية وغيرها , حيث يرجع ذلك الى الصفات والخواص الفريدة والمتميزة التي تكتسبها المواد عند الحجم النانوي . وايضا تمت دراسة الخاصية المغنطيسية لعنصر الحديد (خام) عند احجاممختلفة , وتم تحضير العينات بإستخدام طريقة الطحن لفترات زمنية مختلفة ، واجريت التجارب على العينات واخذت قيم للفيض المغنطيسي والتيار الخارج ولكن بعد تعريض هذه العينات إلى جهاز كاشف (يعمل بمبدأ الأشعة السينية االمفلورة) بمركز النفط الفني وجدت عناصر اخرى بنسب قليلةمع الحديد (Cr, Ni, Mo, Cu, W, V, Mn, Zr, Fe).

Contents

Tables

Figures