بسم الله الرحمن الرحيم

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التوثيق الالكتروني والميكروفيلم

﴿ قسم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بالرسالة صفحات

لم ترد بالأصـــل

بعض الوثائق الأصلية تالفة

Ain Shams University
Faculty of Education
Physics Department

STUDY OF POSITRON ANNIHILATION AND SOME PHYSICAL PROPERTIES OF SOME POLYMERS

THESIS
Presented in partial fulfillment
of the requirements for the degree of
Master of Teacher Preparation in Science (Physics)

To
Physics Department
Faculty of Education
Ain Shams University

By
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1999

بسم الله الرحمن الرحيم

قالوا سبحانك لا علم لنا

إلا ما علمتنا انك أنت

العليم الحكيم

صدق الله العظيم

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Abstract

Abstract

Name : *Ahmad Mohammad Ismail Mohammad*
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Abstract

In this thesis, the effect of incorporation of *GPF*-carbon black on the free volume properties as well as the Doppler broadening parameters has been investigated for Natural Rubber/Styrene Butadiene Rubber *(NR/SBR)* composites. It is found that, the free volume decreases with increasing percentage of additive, and as the size of the free volume decreases, the *W*-parameter, which corresponds to high momentum region, should decrease and the S-parameter should increase.

The dielectric behaviour of the tested composites has been studied in the frequency range from *100Hz to 100KHz* and temperature range from *30 to 140 ℃*. It has been found that Maxwell-Wagner-Sillars *(MWS)* effect is the most effective factor in the range of frequency investigated. The experimental data has been fitted in view of the current theoretical models.

Furthermore, the d.c.electrical conductivity, mechanical and swelling behaviour have been also investigated. The analysis of positron annihilation parameters introduces a trusted support for the interpretations of the other macroscopic physical properties.