

DEDICATION

To my respected teachers

To my parents

To my college

To my son

I dedicate this study

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ملخص البحث

تعتبر هذه الدراسة من الدراسات الأولى من نوعها في مجال الإشعاع غير المؤين وخاصة موجات الراديو والموجات الدقيقة في السودان . مع الانتشار الواسع والسريع لأجهزة الإشعاع غير المؤين وبالأخص موجات الراديو والموجات الدقيقة مثل أجهزة الاتصالات وبالأخص الموبايل ، وأجهزة التحكم عن بعد بالإضافة للأجهزة الطبية ، صار من الضروري لفت الانتباه للمخاطر الصحية المتوقعة . تهدف هذه الدراسة إلى جمع معلومات أساسية عن إنتاج وتطبيقات موجات الراديو والموجات الدقيقة وأثارها الحيوية ودور التعريض . أثبتت هذه الدراسة الآثار الحيوية لموجات الراديو والموجات الدقيقة كما تعرضت لطرق القياس والوقاية .

Abstract

This study is one of the first studies in this vital field in Sudan, especially radiowaves and microwaves.

With the expanding use of radiofrequency and microwaves in communications (particularly cellular phones), remote control and medical instrumentations, all these make necessary to deal with the expected health hazards.

The objective of this study is to introduce informations for different sources of RF/MW and to highlight their health hazards.

Abbreviation

RF	:	Radiofrequency.
MW	:	Microwave.
KHz	:	Kilohertz.
MHZ	:	Megahertz.
GHZ	:	Gegahertz.
TV	:	Television
DC	:	Direct current.
VDT	:	Video display tube.
AM	:	Amplitude Modulation.
FM	:	Frequency Modulation.
VHF	:	Very high Frequency.
UHF	:	Ultra High Frequency.
TEM	:	Transverse electromagnetic mode.
ISM	:	Industrial, scientific and medical.

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