

# الآية

قال تعالى:

﴿أَبْلِغْكُمْ رِسَالَاتِ رَبِّي وَأَنْصَحْ لَكُمْ وَأَعْلَمْ مِنَ اللَّهِ مَا لَا تَعْلَمُونَ﴾ (62)

سورة الاعراف

# ***Dedication***

,,, To my Father,,,

,,, To my Mother,,,

,,,To my brunette,,,

## ***Acknowledgement***

All my pleasure to those whom support and encouraged me throughout my graduate studies. My parents, my brothers specially Musaab and Mohammed and my sisters, my friends.

All my pleasure to my supervisor associate professor Ahmed Al Hassan Alfaki and Dr. Ali Suleiman and Miss Mona Ali to how give me all support to complete this study.

## ***Abstract***

In this research two different source were used with different material in order to investigate the attenuation of x-ray and Gamma- ray as function of the absorber thickness and to compare the effect of this source in attenuation coefficient and to verify Lambert's law of attenuation. It was found that the attenuation coefficient for X-ray is greater than Gamma ray. It was also found attenuation coefficient of X-ray for Cu is equals 11.7, Fe is equals 6.82 and Al is equals 1.2. The attenuation coefficient of Gamma ray for Cu is equals 0.103, Fe is equals 0.687 and Al is equals 0.0235.

Thus Cu is best shielding compared to Fe and Al.

## المستخلص

في هذا البحث تم دراسة معامل توهين الأشعة السينية وأشعة قاما بتعريض عينات مختلفة للأشعة السينية وقاما ,تمت مقارنة معامل توهين الأشعة السينية لكل عنصر مع معامل توهين أشعة قاما . كما تم التحقق من قانون لمبارد للتوهين . وجد معامل التوهين للأشعة السينية أكبر من معامل توهين اشعة قاما . وايضا تم ايجاد معامل توهين الاشعة السينية للنحاس وكانت تساوي 11.7 , للحديد تساوي 6.82, وللالمونيوم تساوي 1.2 . ومعامل توهين اشعة قاما للنحاس تساوي 0.103 , للحديد تساوي 0.6875 وللالمونيوم تساوي 0.0235 . لذلك يعتبر النحاس افضل درع للأشعة مقارنة بالحديد والالمونيوم .

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