

الآية

قال تعالى:

(قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ

الْعَلِيمُ الْحَكِيمُ (32))

صدق الله العظيم

سورة البقرة

DEDICATION

To my parents

To my brothers and sister
To anyone who taught me a letter

To my colleagues
To my teachers
And to all my friends

Acknowledgement

First and foremost ,I would like to express my deepest gratitude to **Dr. Mohamed Elfadil** without his help this work could not have been

Accomplished

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Abstract

The main objective is to apply a new quantitative uniformity analysis technique to the gamma camera resolution test. The results in this study carried out using computerized method in which a home-built Matlab program has been used. The images offered as a (TIFF) format then using Matlab the images were accessed. The region of interest was determined using crop function, and then it was smoothed by (7×7) window to reduce image noise. Then the resolution parameters were calculated by finding the maximum and the minimum counts intensity. The regions of interest have been displayed in a (3D) surface for better visualization of the resolution as an objective method rather than the subjective method (the visual perception). The result of this study showed that there is a strong correlation between the intensity (maximum & minimum) of the image and the resolution parameters (In conclusion, we create own program to quantify resolution data base.

ملخص البحث

الهدف الرئيسي من هذه الدراسة هو دراسة وتطبيق تقنية تحليل كمي لاختبار التباين لجهاز الغاما كاميرا باستخدام تقنيه معالجه الصوره. في هذه الدراسة تم استخدام طريقة المحوسب الذي تم استخدام برنامج ماتلاب. بعد ذلك، تم تحديد المنطقة ذات الاهتمام باستخدام وظيفة (imcrop function)، ومن ثم تم تنعيم الصوره للحد من الضوضاء في الصوره. ثم تم حساب باراميترات التماثل من خلال إيجاد الحد الأقصى والحد الأدنى للشدة. تم عرض المناطق ذات الاهتمام على شكل ثلاثي الابعاد لرؤية التماثل في الصوره بشكل أفضل من باعتبارها طريقة موضوعية بدلا من طريقة ذاتية (الإدراك البصري). أظهرت نتائج هذه الدراسة أن هناك علاقة قوية بين الشدة (الحد الأقصى والحد الأدنى) من الصوره وباراميترات التماثل. في الختام، فإنه من الممكن أن يكون لدينا برنامجنا الخاص لتحديد التباين وبالتالي يمكن أن يكون لدينا قاعدة البيانات الخاصة.

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