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# Dedication

To the soul of my grandfather,

My grand mother

To my father and mother,

My family and friends

# Acknowledgment

First of all I render my thanks and prayers to God who offered me the health and strength to accomplish this work.

I would like to thank my supervisor Dr. Omer Ibrahim Eid for his guidance, help and encouragement to make this work possible.

I am also grateful to my colleagues Ustaz. Abdelarazig Mohamed, Mohamed Z., Bushra Mohamed, and Farah Abuzaid for their continues help throughout the work. And a particular thanks to the members of the Department of Physics “Ahlia University” for their kind help, and special thank for aunt Nagla.

Finally I thank deeply the ministry of agriculture ( khartoum state).

# Abstract

On this thesis laser induced fluorescence (LIF) technique, was used to study the effect of magnetized water as source of irrigated for plant. The hydra is planted in sand soil and clay soil; both were irrigated with normal & magnetized water.

A comparison took place between the intensity & the area under the curve of spectra absorb for the hydra irrigated with normal & magnetized water.

Fe, Mn elements are playing an important role in photosynthesis process. According to that we have observed the changes occurred in the LIF spectra for change at this element.

It has been noticed that there is an increase in absorption of the iron by the hydra when planted in sand soil and irrigated with magnetized water.

The LIF spectra showed many elements that played others roles different than photosynthesis process, but those were out of the scope of this study.

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# الخلاصة

في هذه الأطروحة استخدمت تـ قنية التفلر بالحث الليزرى لدراسة تأثير الماء الممغنط علي نبات ( الهايدرا ) تم زراعته في تربه رمليه وأخرى طينيه، التربتين رويا بماء عادي وماء ممغنط.

تمت الم قارنه للشدة والمساحه اسفل المنحنى للطيف الممتص بواسطة النبات المروي بماء عادى و ماء ممغنط.

عنصرا الحديد والمانجنيز من العناصر التى لها دور مهم في عملية التمثيل الضوئي ,لذلك تم دراسة تغيير طيف LIF الذي يحدث لهذه العناصر.

لاحظنا ان هنالك زياده فى امتصاص الهايدرا للحديد المزروع فى تربه رمليه والمروى بماء ممغنط.

هنالك عناصر أخرى لها أدوار اخرى غير عملية التمثيل الضوئى ولم تضمن ضمن هذه الدراسة.