

## Sudan University of Science and Technology College of Graduate Studies



## Spectroscopic study of metal concentration in hair and finger nails of residents in West Kordufan rural area and from residents in Khartoum State

الدراسة الطيفية لتركيز المعادن في الشعر والأظافر لدى قاطني المناطق الريفية في غرب كردفان وولاية الخرطوم

A thesis submitted for the fulfilment of the requirements for the degree of Doctor of Philosophy in Physics

By

## Afra'a Ahmed Idris Mohammed Ali

Bachelor of Science and Education (University of Khartoum)

MSc in physics (Sudan University for Science and Technology)

Supervised by

Prof. Ali Eltahir Sharaf-Eldin