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## Sudan University of Sciences and Technology College of Graduate Studies Department of Surveying Engineering

## Extracted GPS-Derived Orthometric Heights to Form a Geoid Model in Sudan

أستخلاص الارتفاعات التشاكلية العمودية المشتقة من نظام التوقيع العالمى لتكوين أنموذج جيويد في السودان

A Thesis Submitted in Fulfillment of the Requirements for the Degree of Doctor of Philosophy

By

**Masaad Khalid Ahmed** 

**Supervisor** 

Dr. Khlafalla M. Badi

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## **Dedication**

To my mother who never got tired praying for my successful.

To the soul of my father.

To my wife, brothers, sisters and daughters.