شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بعض الوثائق الاصلية تالفة

بالرسالة صفحات لم ترد بالاصل

Ain Shams University
Faculty of Engineering
Public Works Department

MEDIUM SCALE MAPPING FROM SPOT STEREO IMAGERY

By

Ashraf Mohamed Ahmed Sharawi

B.Sc. Civil Engineering — Ain Shams University, 1983
Post Graduate Diploma in Civil Engineering (Surveying), 1988

A Thesis Submitted in Partial Fulfillment for the Requirements of the Degree of Master of Science in Civil Engineering
(Public Works Dept.— Surveying)

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1995

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Approval Sheet

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STATEMENT

This dissertation is submitted to Ain Shams University for the degree of Master of Science in Civil Engineering

The work included in this thesis was carried out by the author in the Department of Public Works — Ain Shams University from October, 1988 to July, 1995.

No part of this thesis has been submitted for a degree or a qualification of any other University Institution.

Date : 25 / 7 /1995

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ABSTRACT

The SPOT is one of the, if not the most, potential and efficient system among the current remote sensing systems. It possesses many advantages, the most important of which is the stereoscopic capability. Different levels of preprocessing products are also available to meet the interests of different users. SPOT users can generally be divided into photogrammetrists and non-photogrammetrists. The users in the first category search for very high positioning accuracy, because mapping is their main goal. The users in the second category are interested in image interpretation and/or production of thematic maps where very high accuracy is not necessary, but their accuracy demands vary from one user to another.

The present thesis serves the SPOT users in general, by presenting a detailed review of the SPOT system and its potentials from previous experiences. This review is supported also by a summary of the main basics of Remote Sensing in general. A comprehensive compilation of the SPOT subjects is presented. The present research suggests also for non-photogrammetric users a simple, economic and accuracy-satisfying method for SPOT data processing. This method is fully studied here by applying it to a stereopair of SPOT images covering 52 km x 60 km in South-West of Sinai in Egypt. The images are of level 1B and have a base to height ratio near to one. The method depends mainly on the traditional analytical photogrammetric techniques, neglecting thereby the SPOT image geometry to a great extent. The control points are deduced from 1:50,000 topographic maps.

Although the area of study does not contain any clear or sharp features, which made the point identification a formidable and inaccurate task, the results are encouraging. Accuracies of about 80 meter in Easting and Northing coordinates and 120 meter in height (RMS) are achieved. Accuracy better than that by about 20 to 40% is achieved for relative positions.

Finally, recommendations are put forward for further investigations to answer some pending exclamations. Other recommendations are directed to users, specialists and software producers to cooperate in establishing an integrated system in that field, whereby medium scale thematic maps can be produced in an automated fashion.

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