بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

شبكة المعلومات الجامعية
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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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MONA MAGHRABY

Cairo University

MANUFACTURING OF COMPOSITE MATERIALS USED FOR CAMOUFLAGING AND CONCEALMENT FOR UAV (STEALTH)

By
Ahmed Mamdouh Azab

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
Chemical Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

Prof. Dr. Nabil M. Abdelmonem	**Dr. Hesham Tantawy**
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Professor of chemical engineering Chemical engineering department Faculty of Engineering, Cairo University	Associate Professor Chemical engineering department Military Technical College

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Approved by the
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Title of Thesis:

Manufacturing of composite materials used for camouflaging and concealment for UAV (stealth).

Key Words:
Stealth; Composites; Preparation; Characterization; measurements.

Summary:
composite materials used for camouflaging and concealment for unmanned aerial vehicles UAV from radar waves are prepared by using Graphene / polyethylene matrix. Graphene used in the matrix are in the form of chemically reduced graphene oxide RGO or thermally reduced graphene intercalated GI-Th. Characterization are done for both pure graphite G, RGO and GI-Th. Composite polymer matrix is prepared utilizing 0.7 g sample of 10, 20 and 30% mass loading of G, RGO and GI-Th. EM measurements are done by using Network Analyzer device under the frequency range (8-12)GHz to obtain RL and TL of the composites.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Ahmed Mamdouh Azab Date: ../../…

Signature:

Dedication

I would like to dedicate the present work to my family, my parents and my brothers, who have been supporting me in all steps of my life

Acknowledgments

Praise to "Allah", the Most Gracious and the Most Merciful Who Guides Us to the Right Way

All praises and thanks to Allah, the lord of the Words, the sustainer of the universe, and the rule of the day of resurrection. He provided me with all means of support, guidance, patience and ability to complete this work.
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