شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

HANAA ALY

AIRFOIL MORPHING CONTROL AT LOW REYNOLDS NUMBER

By

Yusuf Thaer Fadel Yahia Elbadry

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

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Under the Supervision of

Prof. Mohamed Madbouli AbdelRahman
Professor
Aerospace Engineering Department
Faculty of Engineering, Cairo University

Assoc. Prof. Amr Gamal Guaily
Associate Professor
Engineering Mathematics and Physics Department
Faculty of Engineering, Cairo University

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Approved by the Examining Committee:

Prof. Mohamed Madbouli AbdelRahman, Thesis Main Advisor

Assoc. Prof. Amr Gamal Guaily, Advisor

Prof. Mohamed Khalil Ibrahim, Internal Examiner

Prof. Ahmed Farouk Abdelgawad, External Examiner
(Professor at Zagazig University)

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
2022

Engineer's Name:	Yusuf Thaer Fadel Yahia Elbadry	
Date of Birth:	30/1/1996	
Nationality:	Egyptian	
E-mail:	yelbadry@nu.edu.eg	
Phone:	+20 100 570 7861	
Address:	Opera City, Shiekh Zayed, Giza, Egypt	
Registration Date:	/ 10 /2018	
Awarding Date:	/ /2022	
Degree:	Masters of Science	
Department:	Aerospace Engineering	

Supervisors:

Prof. Mohamed Madbouli AbdelRahman
Assoc. Prof. Amr Gamal Guaily

Examiners:

Prof. Mohamed Madbouli AbdelRahman	Thesis Main Advisor
Assoc. Prof. Amr Gamal Guaily	Advisor
Prof. Mohamed Khalil Ibrahim	Internal Examiner
Prof. Ahmed Farouk Abdelgawad (Professor at Zagazig University)	External Examiner

Title of Thesis:

Airfoil Morphing Control at Low Reynolds Number

Key Words:

Finite Element Method, Incompressible Flow, Morphing, Frequency Lock-In, Level-Set Method

Summary:
Micro Air Vehicles operates at low Reynolds number. The flight can be affected by very small disturbance and the flow can separate easily. New oscillating profile is proposed for oscillating the leading edge of NACA0012 airfoil. The incompressible Navier-Stokes equations are numerically solved using Galerkin/Least-Squares FEM.

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: Yusuf Thaer Fadel Yahia Elbadry Date: / / 2022

Signature:

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Yusuf Elbadry

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