NUMERICAL INVESTIGATION OF THERMAL COMFORT INSIDE CRUISE SHIPS

By

Ahmed Emad El-Din Mohamed Osman

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

MECHANICAL POWER ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

NUMERICAL INVESTIGATION OF THERMAL COMFORT INSIDE CRUISE SHIPS

Key Words: Thermal comfort-ships-air distribution-CFD-air conditioning-relative humidity

Summary: This thesis focuses on analyzing indoor thermal comfort inside a hall in a cruise ship through numerical investigation of changing the location and distribution of air supply and air extract grills on air properties such as temperature and velocity. Five suggested cases were studied and in each case the location, dimensions and even number of air supply and air extract grills and boundary conditions changed to discuss the effect of changing these parameters on thermal comfort levels for occupants using ANSYS 17.2

DISCLAIMER

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree of 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: Date:

Signature:

DEDICATIONS

I dedicate this thesis to my parents and family members without them it would be impossible for me to complete my thesis work.

ACKNOWLEDGEMENT

I would like to express my gratefulness and appreciation to **Prof. Dr. Essam E. Khalil** for his great influence, support and encouragement in this thesis and in my life, I'm so much proud to be his student and really so grateful for his supervision.

Also I'm so grateful for **Dr. Gamal El-Hariry** for his supervision and guidance through this thesis.
I owe sincere gratitude to **Dr. Taher Aboudeif** for his guidance and helping. I couldn't achieve all that work without him.

Special gratitude to my dear family and friends who stood by me, supported and encouraged me to finish this thesis.

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