UNIVERSITÉ D'OTTAWA
UNIVERSITY OF OTTAWA

ÉCOLE DES ÉTUDES SUPÉRIEURES ET DE LA RECHERCHE
SCHOOL OF GRADUATE STUDIES AND RESEARCH

December 14, 1990

Mr. Joseph Lovetri
61 Ridgefield Crescent
Nepean, Ontario
K2H 6S6

Dear Mr. Lovetri:

Please find enclosed a copy of the confirmation of your Ph.D. thesis defence in Electrical Engineering as well as a copy of our procedures for an oral examination.

I am also enclosing a copy of the comments from three of the examiners of your thesis which should help you in preparing your defence.

May I take this opportunity to wish you good luck!

Sincerely yours,

Jeanne Corey

Jeanne Corey
Assistant to the Manager of
Theses and Admissions

Encl.
c.c. Dr. G. Costache

/jc

CABINET DU SECRÉTAIRE GÉNÉRAL
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UNIVERSITÉ D'OTTAWA
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ÉCOLE DES ÉTUDES SUPÉRIEURES ET DE LA RECHERCHE
SCHOOL OF GRADUATE STUDIES AND RESEARCH

December 12, 1990

Dr. I. Ciric	Department of Electrical Engineering	University of Manitoba
*Dr. W.J.R. Hoefer	Department of Electrical Engineering	University of Ottawa
Dr. A. Podgorski	National Research Centre	Ottawa, Ontario
Dr. J. Wight	Department of Electronics	Carleton University
Dr. G. Costache (Thesis Supervisor)	Department of Electrical Engineering	University of Ottawa

This is to confirm that the Ph.D. thesis defence in Electrical Engineering of Mr. Joseph Lovetri will be held on:

FRIDAY, JANUARY 11, 1991 AT 10:00 A.M.,

IN ROOM A-707-B, COLONEL BY HALL, 161 LOUIS

PASTEUR STREET, UNIVERSITY OF OTTAWA

You will find enclosed, for your information, a copy of our procedures for an oral examination.

Yours sincerely,

Jeanne Corey
for

Nicole Charette
Manager of Theses and Admissions

Encl.

c.c. Dr. D. Ionescu
Dr. N. Ahmed
Mr. J. Lovetri
Public Relations and Information Services

*Dr. Hoefer is on sabbatical and therefore will not attend the defence.

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EXAMINER A.

CABINET DU SECRÉTAIRE GÉNÉRAL
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COMMENTAIRES GÉNÉRAUX
GENERAL COMMENTS

THE THESIS PRESENTS IN A UNIFIED WAY VARIOUS ALGORITHMIC AND NON-ALGORITHMIC COMPUTER METHODS FOR MODELLING TOPOLOGICALLY COMPLEX ELECTROMAGNETIC (EM) SYSTEMS, WITH APPLICATIONS TO AN EXPERT SYSTEM FOR THE ANALYSIS OF EM INTERFERENCE AND EM COMPATIBILITY PROBLEMS. THIS IS A FIRST EXPERT SYSTEM APPLIED TO THIS TYPE OF PROBLEMS.

CONTRIBUTION À L'AVANCEMENT DE LA SCIENCE (ORIGINALITÉ, IMPORTANCE, ETC.)
CONTRIBUTION TO KNOWLEDGE (ORIGINALITY, IMPORTANCE, ETC.)

- RELATIVE TO THE NON-ALGORITHMIC TECHNIQUES, AN EXPERT SYSTEM HAS BEEN DEVELOPED AND IMPLEMENTED FOR EM INTERFERENCE AND EM COMPATIBILITY APPLICATIONS.
- RELATIVE TO THE ALGORITHMIC PART, NEW SCHEMES TO IMPLEMENT FINITE-DIFFERENCE TIME-DOMAIN METHODS HAVE BEEN ANALYSED AND PROPOSED.
- RESEARCH RESULTS OBTAINED IN THE THESIS HAVE BEEN SUCCESSFULLY USED FOR THE DEVELOPMENT OF AN EXPERT SYSTEM FOR EM SHIELDING EFFECTIVENESS APPLICATIONS.

MÉTHODOLOGIE DE LA RECHERCHE (QUALITÉ DU TRAVAIL, COMPÉTENCE TECHNIQUE, ETC.)
RESEARCH METHODOLOGY (ADEQUACY, TECHNICAL SKILL, ETC.)

VERY GOOD

4 COMPRÉHENSION DU SUJET (CONNAISSANCE DES OUVRAGES ANTÉRIEURS, CHOIX DU PROJET, ÉVALUATION DES RÉSULTATS ET VALEUR DES CONCLUSIONS)
UNDERSTANDING OF THE SUBJECT (REVIEW OF PREVIOUS WORK, CHOICE OF PROJECT, EVALUATION OF RESULTS AND VALIDITY OF CONCLUSIONS)

ADEQUATE

5 ORGANISATION DE LA THÈSE ET FORME LITTÉRAIRE (CLARTÉ, GRAMMAIRE, STYLE, PONCTUATION, ETC.)
GENERAL ORGANIZATION OF THE THESIS AND LITERARY FORM (CLARITY, GRAMMAR, STYLE, PUNCTUATION, ETC.)

VERY GOOD

6 PRÉSENTATION MATÉRIELLE (BIBLIOGRAPHIE, NOTES DE RENVOI, TABLEAUX, SCHÉMAS, QUALITÉ DE LA TYPOGRAPHIE)
MATERIAL PRESENTATION (BIBLIOGRAPHY, FOOTNOTES, TABLES, FIGURES, FREEDOM FROM TYPESCRIPT ERRORS)

VERY GOOD

7

AUTRES COMMENTAIRES ET AMÉLIORATIONS SUGGÉRÉES
OTHER COMMENTS AND RECOMMENDATIONS FOR IMPROVEMENT

8

RÉVISIONS JUGÉES ESSENTIELLES POUR RENDRE LA THÈSE ACCEPTABLE
REVISIONS DEEMED NECESSARY TO MAKE THE THESIS ACCEPTABLE

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EXAMINER B.

CABINET DU SECRÉTAIRE GÉNÉRAL
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COMMENTAIRES GÉNÉRAUX
GENERAL COMMENTS

good overview of EM interaction modelling

CONTRIBUTION À L'AVANCEMENT DE LA SCIENCE (ORIGINALITÉ, IMPORTANCE, ETC.)
CONTRIBUTION TO KNOWLEDGE (ORIGINALITY, IMPORTANCE, ETC.)

- a non algorithmic (expert system) technique for the analysis of EM interaction phenomena is new
- use of methods based on computational fluid dynamics is original

MÉTHODOLOGIE DE LA RECHERCHE (QUALITÉ DU TRAVAIL, COMPÉTENCE TECHNIQUE, ETC.)
RESEARCH METHODOLOGY (ADEQUACY, TECHNICAL SKILL, ETC.)

good

4 COMPRÉHENSION DU SUJET (CONNAISSANCE DES OUVRAGES ANTÉRIEURS, CHOIX DU PROJET, ÉVALUATION DES RÉSULTATS ET VALEUR DES CONCLUSIONS)
UNDERSTANDING OF THE SUBJECT (REVIEW OF PREVIOUS WORK, CHOICE OF PROJECT, EVALUATION OF RESULTS AND VALIDITY OF CONCLUSIONS)

very good

5 ORGANISATION DE LA THÈSE ET FORME LITTÉRAIRE (CLARTÉ, GRAMMAIRE, STYLE, PONCTUATION, ETC.)
GENERAL ORGANIZATION OF THE THESIS AND LITERARY FORM (CLARITY, GRAMMAR, STYLE, PUNCTUATION, ETC.)

good

6 PRÉSENTATION MATÉRIELLE (BIBLIOGRAPHIE, NOTES DE RENVOI, TABLEAUX, SCHÉMAS, QUALITÉ DE LA TYPOGRAPHIE)
MATERIAL PRESENTATION (BIBLIOGRAPHY, FOOTNOTES, TABLES, FIGURES, FREEDOM FROM TYPESCRIPT ERRORS)

good

7

AUTRES COMMENTAIRES ET AMÉLIORATIONS SUGGÉRÉES
OTHER COMMENTS AND RECOMMENDATIONS FOR IMPROVEMENT

8

RÉVISIONS JUGÉES ESSENTIELLES POUR RENDRE LA THÈSE ACCEPTABLE
REVISIONS DEEMED NECESSARY TO MAKE THE THESIS ACCEPTABLE

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EXAMINER C.

CABINET DU SECRÉTAIRE GÉNÉRAL
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1 COMMENTAIRES GÉNÉRAUX
GENERAL COMMENTS

A well written and documented thesis combining a number of new developments into an expert system. A more detailed record of original contributions (See 7 below) would be helpful in identifying them. The conclusion (chapter 16) could benefit from a description of how the techniques described in part 2 could be implemented in the expert system proposed in part 1.

2 CONTRIBUTION À L'AVANCEMENT DE LA SCIENCE (ORIGINALITÉ, IMPORTANCE, ETC.)
CONTRIBUTION TO KNOWLEDGE (ORIGINALITY, IMPORTANCE, ETC.)

The main contribution resides in the formulation of electromagnetic interaction models for implementation in an expert system. The numerical methods used for field modeling have been translated into efficient algorithms.

3 MÉTHODOLOGIE DE LA RECHERCHE (QUALITÉ DU TRAVAIL, COMPÉTENCE TECHNIQUE, ETC.)
RESEARCH METHODOLOGY (ADEQUACY, TECHNICAL SKILL, ETC.)

The candidate has made a thorough investigation of the state-of-the-art and combined various results and procedures into a new approach for EMI modeling. This has been done competently, and it appears that the candidate has been very skilful in assembling a number of efficient approaches.

4 COMPRÉHENSION DU SUJET (CONNAISSANCE DES OUVRAGES ANTÉRIEURS, CHOIX DU PROJET, ÉVALUATION DES RÉSULTATS ET VALEUR DES CONCLUSIONS)
UNDERSTANDING OF THE SUBJECT (REVIEW OF PREVIOUS WORK, CHOICE OF PROJECT, EVALUATION OF RESULTS AND VALIDITY OF CONCLUSIONS)

Very good

5 ORGANISATION DE LA THÈSE ET FORME LITTÉRAIRE (CLARTÉ, GRAMMAIRE, STYLE, PONCTUATION, ETC.)
GENERAL ORGANIZATION OF THE THESIS AND LITERARY FORM (CLARITY, GRAMMAR, STYLE, PUNCTUATION, ETC.)

Very good

6 PRÉSENTATION MATÉRIELLE (BIBLIOGRAPHIE, NOTES DE RENVOI, TABLEAUX, SCHÉMAS, QUALITÉ DE LA TYPOGRAPHIE)
MATERIAL PRESENTATION (BIBLIOGRAPHY, FOOTNOTES, TABLES, FIGURES, FREEDOM FROM TYPESCRIPT ERRORS)

Very good

7 AUTRES COMMENTAIRES ET AMÉLIORATIONS SUGGÉRÉES
OTHER COMMENTS AND RECOMMENDATIONS FOR IMPROVEMENT

Even though there are important original contributions in the thesis, much of the material, especially the part 2, is well documented in the literature. The individual innovations ~~of~~ by the candidate are thus not clearly distinguishable. I thus recommend that the short paragraph ii "Contributions" (p. 3) be considerably more detailed, itemizing all ~~of~~ new contributions with reference to the thesis so that they can be precisely identified.

8 RÉVISIONS JUGÉES ESSENTIELLES POUR RENDRE LA THÈSE ACCEPTABLE
REVISIONS DEEMED NECESSARY TO MAKE THE THESIS ACCEPTABLE

n/a