

CHALMERS



CHALMERS TEKNISKA HÖGSKOLA
CHALMERS UNIVERSITY OF TECHNOLOGY · GOTHENBURG · SWEDEN

Rashid Farivar

HAR AVLAGT
TEKNOLOGIE LICENTIATEXAMEN

HAS BEEN AWARDED
THE DEGREE OF LICENTIATE OF ENGINEERING

Göteborg 17 november 2011

Karin Markides
Rektor
President

Susanne Rudeke
Examenshandläggare
Officer of Degree

Examensbevis för

Degree diploma awarded to

Rashid Farivar

Personnummer
820515-0892

*Year, month, day of birth; identification No.
1982-05-15 (0892)*

har avlagt teknologie licentiatexamen i

*has satisfied the requirements for the Degree of
Licentiate of Engineering in*

Mikroteknologi och nanovetenskap

Microtechnology and Nanoscience

Fordringarna för licentiatexamen motsvarar två
års heltidsstudier och omfattar kurser och en
uppsats.

*The requirements for the Degree of Licentiate of
Engineering, two years of full time study, include
both courses and a research thesis.*

Uppsatsens titel
Molecular Beam Epitaxy and
Characterization of AlN/GaN
Heterostructures

*Title of the thesis
Molecular Beam Epitaxy and
Characterization of AlN/GaN
Heterostructures*

Examinator
Professor Thorvald Andersson

*Examiner
Professor Thorvald Andersson*

Huvudhandledare
Professor Thorvald Andersson

*Thesis adviser
Professor Thorvald Andersson*

Examensfordringarna var avklarade
2011-06-07

*The degree requirements were satisfied on
June 7, 2011*

2 (3)


Signatur

Rashid Farivar

820515-0892

Kurser

Courses

Introduktionsdag för doktorander
*General introduction for doctoral
students*
Tekn lic Ulla Rilby

Condensed matter physics
Condensed matter physics
Professor Mats Jonson

Teaching, learning and evaluation
Teaching, learning and evaluation
Fil dr Tom Adawi

Ethics, science and society
Ethics, science and society
Fil dr Tom Adawi

Informationssökning och
informationshantering
Information literacy
Fil kand Gunilla Thomasson

Semiconductor materials physics
Semiconductor materials physics
Bitr professor Thorvald Andersson

Quantum heterostructures and devices
Quantum heterostructures and devices
Bitr professor Shumin Wang



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DIPLOMA SUPPLEMENT

This Diploma Supplement model was developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgements, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give reason why.

1. Information identifying the holder of the qualification

- 1.1 Family name(s): Farivar
- 1.2 Given name(s): Rashid
- 1.3 Date of birth (day/month/year): 15 May 1982
- 1.4 Student identification number or code (if available): 820515-0892

2. Information identifying the qualification

- 2.1 Name of qualification and (if applicable) title conferred (in original language): Teknologie licentiatexamen
- 2.2 Main field(s) of study for the qualification: See degree certificate/official transcript
- 2.3 Name and status of awarding institution (in original language): Chalmers tekniska högskola, (private)
- 2.4 Name and status of institution (if different from 2.3) administering studies (in original language): Not applicable.
- 2.5 Language(s) of instruction/examination: Swedish/English

3. Information on the level of the qualification

- 3.1 Level of qualification: Education at third cycle/doctoral studies. For more information on higher education in Sweden, please see point 8, appendix 2.
- 3.2 Official length of programme: 120 credits within a certain field and a research thesis (60 credits)
1.5 credits correspond to one week of full time studies.
- 3.3 Access requirement(s): A person has basic eligibility for third cycle if he or she
 - 1. has taken a second cycle qualification,
 - 2. has completed course requirements of at least 240 credits, including at least 60 credits at second cycle, or
 - 3. has acquired essentially corresponding knowledge in some other way in Sweden or abroad.
 The faculty board may permit an exemption from the requirement of basic eligibility in the case of an individual applicant, if there are special grounds.

4. Information on the contents and results gained

- 4.1 Mode of study: Full-time equivalent.

4.2 Programme requirements

Scope

A Licentiate is awarded either after the student has completed a study programme of at least 120 credits in a subject in which third-cycle teaching is offered or after a third-cycle student has completed one part comprising at least 120 credits of a study programme intended to conclude with the award of a PhD, if a higher education institution decides that a licentiate of this kind may be awarded at the institution.

Outcomes

Knowledge and understanding

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For a Licentiate the third-cycle student shall have:

- demonstrated knowledge and understanding in the field of research including current specialist knowledge in a limited area of this field as well as specialised knowledge of research methodology in general and the methods of the specific field of research in particular.

Competence and skills

For a Licentiate the third-cycle student shall have:

- demonstrated the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake a limited piece of research and other qualified tasks within predetermined time frames in order to contribute to the formation of knowledge as well as to evaluate this work
- demonstrated the ability in both national and international contexts to present and discuss research and research findings in speech and writing and in dialogue with the academic community and society in general, and
- demonstrated the skills required to participate autonomously in research and development work and to work autonomously in some other qualified capacity.

Judgement and approach

For a Licentiate the third-cycle student shall have:

- demonstrated the ability to make assessments of ethical aspects of his or her own research
- demonstrated insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrated the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Thesis

For a Licentiate the third-cycle student shall have been awarded a pass grade for a research thesis of at least 60 credits.

Miscellaneous

Specific requirements determined by each higher education institution itself within the parameters of the requirements laid down in this qualification descriptor shall also apply for a Licentiate with a defined specialisation.

- 4.3 Programme details (e.g. modules or units studied), and the individual grades/marks/credits obtained (if this information is available on an official transcript this should be used here):** See degree certificate/Official transcript.
- 4.4 Grading scheme and, if available, grade distribution guidance:** The doctoral degree is unclassified: only the mark "Godkänd" (Passed) is awarded both for the course and the research thesis.
- 4.5 Overall classification of the qualification (in original language):** Not applicable for Swedish degrees.

5. Information on the function of the qualification

- 5.1 Access to further study:** Eligible for further studies at the third level
- 5.2 Professional status (if applicable):** Not applicable

6. Additional information

- 6.1 Additional information:** Normally the doctoral students teach courses in the undergraduate programmes.
- 6.2 Further information sources:**
Chalmers tekniska högskola, SE-412 96 Göteborg
<http://www.chalmers.se>

National Agency for Higher Education, Box 7851, SE-103 99 Stockholm
<http://www.hsv.se>



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7. Certification of the supplement

7.1 Date: 17 November 2011

7.2 Signature



Susanne Rudeke

7.3 Capacity: Officer of Degree

7.4 Official stamp or seal



8. Information on the national higher education system

Information on the Swedish higher education system of enclosure