

## RESEARCHES & AUTHORIZING

During the last years since 2003 I have written hundreds or even thousands of academic, business and commentary notes in the forms of papers, presentation slides, reports, booklets and books in the areas such as solar physics, thermodynamics, fluid dynamics, IT (incl cryptography), VLSI chip design and mathematics, incl math (particularly graph theory) for VLSI design, among them, the selected about **200+** pieces are of quite comprehensive and indepth nature if review and research.

I did not publish my academic writing results because none of these researches and writing are sponsored by any universities, institutions, other academic organizations and funds, for all of thousands of these organizations and professors have rejected my research incentives in the past. On the other hand, most of them are just my study aides or daily records, with exception of the business reports that are specifically prepared for a special purpose. Therefore they are mostly not written with the purpose of publication in mind. And my writing is to large extent only my hobby, for my own amusement, not for showing the world how capable I am. However, they are not necessary meant to be in low quality and just on contrary, they can be compatible with most published papers on the market.

With the exception of my master's thesis in 1989, all of my writings are dated back from 2003. Therefore what I have written before that and after 1978 when I first attended the university at the age of 15, are not known and are all lost. They might be yet another great number as well.

What will be coming up after this crazy period of writing ?

Well, my writing will certainly no more spread over so large a spectrum as before. I might still write some business reports, but only on requests of my clients, therefore that is unpredictable. I might still write a large number of essays about my life and the social events happening here and there and which will eventually be part of my autobiography. Apart from this, my overall writing will be slowed down or even suspended for the moment, because of my poor economic status. For during the last decade I did not earn money in lieu of my researches and my purse is dried up, therefore I need to fill it up and hence for some months or even years from now I might shift to business and leave little time to studies – an hour a day at most.

Nevertheless, my academic researches will be sure continuing and focusing on the following areas:

- Graph theory for IC technologies, at the moment graph embedding (part of the extremal graph theory)
- New generations of IC technologies, just for followup, no way to conduct real research

I will write a few serious and useful essays in **graph theory alone**. The largest writing project by far, will be my thousands of pages of my **autobiography**, with its writing delayed for I don't know how many years.

All books with a few exception are written in US English: a few in German and some others in Chinese.

Note that all page number calculations are rough estimation only.

## ACADEMIC WRITING

(2007 – present)

## GRAPH THEORY

On the part of graph theory for VLSI design, I have written some papers on graph theory for VLSI routing/detailed routing/channel routing, hypergraph modeling for FPGA design, graph theory for advanced chip design particularly quantum computing, graph partitioning for VLSI design, graph embedding for VLSI (particularly quantum circuits) design, graph theory for 3d VLSI design etc. I have also prepared for several pure graph theoretic essays.

## Pure & Applied Graph Theories for IC Design

Graph Theory – an Introduction	pp52
TSP – Traveling Salesman Problems, a comprehensive review	pp67
Graph actions/operations	pp21
Graph/hypergraph clustering	pp60

## Graph embedding / graph packing / Extremal Graph Theory – current focus under preparation

Graph / Hypergraph features / instances / variables / parameters / Relations	pp14
Graph/Hypergraph File Format	pp8
Graph function / components / characteristics	pp14
Graph partitioning	pp330
Graph-to-hypergraph transformation	pp20
Graph types	p269
Tree types	p112
Graph/hypergraph modelling for VLSI design	pp40
Graph theory for reconfigurable computing – Part I Introduction	pp37
Graph Theory for Reconfigurable Computing – Part II: Control & Data Flow Graphs	pp77

## Hypergraph

Hypergraph types	pp126
Hypergraph Models for FPGA design	pp58

## Combinatorics & Operational Optimizations pp49

## Graph Theory and the Worldwide Web

Graph theory and the Word Wide Web – Some Special Topics (topics include graph theory for the Internet, search engines algorithms, Google Maps and other Internet map systems, peer-to-peer(p2p) networking and the TOR router)	pp250
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## CHIP DESIGN

Chip design study notes - electronic theories and technologies	pp62
Chip design study notes - general	pp100
Chip design study notes – physical design	pp89
Chip design study notes – routing	pp139
Chip design study notes – FPGA	pp56

## New Generation of Information Processing and Computing

3D ICs	pp218
Membrane chips	pp33
Nano chips	pp82
Neural computing	pp36
Quantum chips	pp288

### Other next generations of IC technologies incl.:

**under preparation**

- bio\_DNA
- bio\_cellular
- biocomputing
- carbon\_nanotube
- dynamical systems computing
- gallium
- genetic
- germanium
- graphene
- indium
- molecular
- molybdenum
- nano\_deep\_submicron
- photonic/
  - plasmonics
- resonant tunneling
- reversible computing/
- single electron/
- strained silicon/
- superconducting/

### Spin Based Chips - current focus

**under preparation**

## MATHEMATICS – EARLIER RESEARCHES

Abstract Algebra – Encyclopedia	pp41
Boolean Algebra	pp53
Complex Analysis	pp56
Computational Analysis	pp135
Number Theory – a Review	pp19
Applied Number Theory	pp120
Primality Testing – Comprehensive Review	pp135
The AKS primality test algorithm – a review and improvement	pp196
Integer Factorization	pp45
Random Number Generation	pp55

Functional Analysis	pp255
Differential and integral equations & mathematical physical equations	pp76
Computational Geometry	pp33
Probability and statistics	pp55
Ergodic Theory	pp43
Fast Fourier Transform	pp322
Cryptography	pp40
Quantum Cryptography	pp35
Postquantum Cryptography	pp75
Information technology	pp90
Computer Algorithm	pp160
Computer Complexity	pp230
Math for Search Engines	pp210
Math in Music Composition	pp66
Math formula tools	pp280
<b>FLUID DYNAMICS</b>	
Nano fluid dynamics: Introduction, Review and Tutorial	pp450
Computational Fluid dynamics – an Introduction	pp138
Yachts Hydrodynamics	pp26
<b>SOLAR RELATED RESEARCHES</b>	
有关太阳的一切	pp84
About the Sun	pp400
Solar energy fundamentals	pp450
Solar thermal applications	pp270
Solar photovoltaics – wafer, cells, modules, BOS etc	pp250
Space PV	pp165
Solar power systems	pp70
Other Solar Technologies (thermoionic power generation / daylighting / litospheres / photoluminescence / solar hydrogen / solar to liquid fuel / solar photosynthesis)	pp40
Solar radiation theory	pp 450
(Spectral radiation & the atmosphere, Solar radiation and the earth system, Solar radiation & climate change / global warming, Solar radiation and vegetation etc)	
Solar radiation measurement technology	pp 850
Solar Physics – an Introduction and Review	pp70
Solar Models (SSM – Standard Solar Models)	pp70

The Chromosphere	pp10
The Corona	pp30
The Photosphere	pp20
Solar prominences	pp10
Solar magnetic field	pp8
Solar Flares	pp25
Helioseismology	pp11
Solar neutrino problem	pp7
Sunspots	pp26
Solar wind	pp30
Solar aircrafts	pp 2000
Solar airships	pp 550
Solar sails / solar ion propulsion for far space ventures	pp180
Photoaging	pp170
Solar health and therapy	pp245

## THERMODYNAMICS

Thermodynamics Terminology	pp32
Thermodynamics databases	pp30
Thermodynamics software	pp60
Thermodynamics events	pp50
Introduction to Thermodynamics	pp140
Modern thermodynamics- a comprehensive review, categorization and listing	pp267
Entropy	pp60
Equilibrium Thermodynamics	pp28
Non-Equilibrium & Non-linear Thermodynamics	pp22
(Irreversible) Endoreversible Thermodynamics	pp28
Dissipative structure theory	pp36
Finite Time Thermodynamics	pp8
Negative Energy Spectrum Thermodynamics	pp9
Advanced Thermodynamics and Statistical Physics	pp551
Physical chemistry	pp50
Mesoscopic Thermodynamics	pp15
Nano –thermodynamics – an overview	pp150
Quantum Thermodynamics	pp8
Cryogenic thermodynamics	pp26
Computational Thermodynamics	pp20
Thermodynamics of Polycomponent System	pp77
Thermodynamics of Porous Media	pp10

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Surface thermodynamics / thermodynamics of surface / interface thermodynamics / interfacial thermodynamics / thermodynamics of interfaces	pp37
Network Thermodynamics	pp9
Liquid & Process Thermodynamics	pp8
Thermodynamics of Solutions/Solvation Thermodynamics	pp21
Engineering Thermodynamics	pp87
Chemistry Thermodynamics	pp130
Thermodynamics of Chemical Equilibrium	pp55
Thermochemistry	pp64
Combustion thermodynamics	pp150
Thermodynamics of Materials	pp28
Thermodynamics of Crystalization	pp12
Metallurgical Thermodynamics	pp33
Thermodynamics of Metals	pp80
Thermodynamics of Alloys	pp25
Phase Diagram of Alloys and their Thermodynamics	pp22
Cosmos Physics	pp279
Gravitational Thermodynamics	pp10
Thermodynamics of the cosmos (thermodynamics of the universe / cosmic thermodynamics)	pp170
Celestial thermodynamics	pp25
Black hole thermodynamics	pp110
Solar Thermodynamics	pp90
Thermodynamics of the solar corona heating mechanism	pp270
Thermodynamics of solar wind	pp50
Earth Thermodynamics	pp10
Atmospheric Thermodynamics	pp46
Greenhouse Thermodynamics	pp28
Ecosystem/Ecological Thermodynamics	pp894
Thermodynamics of Energy System	pp19
Solar energy and thermodynamics	pp25
Biological thermodynamics	pp150
Thermodynamics of Organisms	pp21
Thermodynamics and health	pp90
Thermodynamics of cancers (oncological thermodynamics / thermodynamic oncology / carcinothermodynamics)	
Hierarchical Thermodynamics	pp8

Thermodynamics of Pharmaceuticals	pp15 pp790
Thermodynamics of economics	pp310
Thermoeconomics / Exergoeconomics	pp60
Sociological Thermodynamics	pp147
Bible and Thermodynamics	pp130
Divine Thermodynamics	pp43
Thermodynamics of Business Management	pp12
Thermodynamics in Finance	pp27
Thermodynamics of Ancient China	pp10
Thermodynamics in Literatures	pp14
Thermodynamics in Politics	pp28

## LANGUAGES

Überblick über deutsche Literatur	pp580
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## MISCELLANEOUS

Scientific research methodology	pp135
My science questions and proposals	pp28

## WORLD SCIENTISTS DATABASES

The greatest scientists China and the world	pp100
Mathematicians	pp89
Graph Theorists	pp425
Algebraists	pp16
Number Theorists	pp234
Thermodynamicists	pp220
Cosmological Thermodynamicists	pp220
Scientists in Biothermodynamics	pp465
Scientists in Oncology and Oncological Thermodynamics	pp550
Nano Thermal Scientists	pp31
NanoFluidics Researchers	pp70
Solar Radiation Scientists	pp70
SSM (Standard Solar Models) Scientists index	pp350

## MY THESES

My Master thesis (1989): Studies on SO <sub>2</sub> Pollution Control during coal combustion	pp100
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## APPLICATION WRITING

(2003-present)

### IT RELATED

**Software reverse engineering**

**under preparation**

**Network security or hacking technologies**

**under preparation**

Computer and OS Introduction	pp90
Computer and OS trouble shooting records and guides	pp375
Internet protocols	pp50
Linux systems	pp120
Programming guides	pp350
Databases	pp252
Servers	pp320
Online communications	pp250
Email security	pp210
Browser Security	pp35
Online multimedia	pp350
GoogleMaps Introduction	pp110
WAP – Wireless Application Protocols	pp100
Website development guides	pp240
Cryptology review	pp76
Cryptological platforms	pp50
CryptoChina Report	pp100
Internet freedom – a series of Internet access technology guides	pp2300
VPN review and technologies	pp410
Industrial software incl solar and windpower software	pp76

### LANGUAGES

Translation & Localization Technologies	pp63
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## BUSINESS WRITING

(2003-2009)

During my last years of business activities, I have been writing hundreds of consulting reports in several fields for my international clients. Here are a brief summarization:

### AVIATION

Private space development	pp 340
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Flying cars or Personal Air Vehicle	pp 260
Business aircraft manufacturers in China	pp360
Business aircraft manufacturers in the world	pp690
Business and general aviation China monthly and quarterly reports	

## **ELECTRICITY POWER BUSINESS**

China power monthly reports 12 issues, total	pp1200
China and world power generation equipment and systems (steam turbines, gas turbines, gensets, hydroturbines, windturbines, etc)	pp850

## **HEALTHCARE DEVELOPMENT PROJECT WENZHOU**

China Healthcare Development Report and Wenzhou New Hospital Development Project Plan	pp1600
The emergency medicine status report	pp90

## **LUXURIOUS MARKET**

Luxurious Market China	pp150
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## **REAL ESTATE DEVELOPMENT**

World and China Real Estate Development Industry Directory and Status Report	pp1500
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## **SOLAR ENERGY BUSINESS**

China solar monthly reports 36 issues, total	pp 3600
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## **THERMAL TECHNOLOGIES**

Thermodynamic optimization	pp340
Water heater thermodynamic optimization	pp100
Water heater safety guides	pp184
China Instant Electric Water Heater Technologies & Products	pp10
Home Energy /Power Management System	pp14
Thermal technology company directory	pp410

## **WEALTHY REPORT**

The richest people in the world – a comprehensive compilation	pp1200
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## **WEBMARKETING**

Web marketing practical guide	pp100
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## **WINDFALL ANALYSIS**

Windfall database China pp2500

## WORLD CAPITAL MARKETS

World Capital Markets & Investment Consulting pp80

## YACHTS INDUSTRY

China yacht builders pp 310

World yacht builders and other services pp 810

Yacht China Monthly Reports

## OTHERS

(2006 – present)

**Autobiography**                      **several thousands of pages in total**    **to be prepared a decade later**

About prayer pp160

About religion pp150

About SDA – the Seventh Day Adventist Church pp35

America politics

China's Internet

China politics pp42

Exodus why?

Good Samaritan

Human rights in China

Lost opportunities, or rather, lost life

Market politics and a new China

My church experiences

My dream China

My experiences with PhD applications at ZD University

My testimony for Jesus

My zigzag road to faith

Persecution

Taxation

The Hukou problems

This is Hangzhou

This is Huzhou

My this 13 years

## WEBSITES

In addition to the above writing, I have also developed many – perhaps a **hundred** - websites for various purposes. You may refer to the listing for a quick review. A website is also a kind of authoring and research, similar to a paper or a reporting.

## THE EARLY DAYS (Before 2003)

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There might be another hundreds of essays, articles, papers, presentations or books, I can safely say, but the above is far than enough, therefore I would not bother to look for them, at least for now. A few years later, when I will resume my story, I may try to pick them up, wait a bit and be patient.....