

UNIVERSITÀ DEGLI STUDI DI BOLOGNA

FACOLTÀ DI SCIENZE MATEMATICHE FISICHE NATURALI

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XII Ciclo

**Design and development of
high speed VLSI architectures
for high energy physics**

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INDEX

	page
Acronyms	iv
CHAPTER 1	
Introduction	5
1.1. The Problem of Triggering in High Energy Physics	5
1.2. Fuzzy Logic Applications for High Energy Physics	7
1.3. Technological Implementation	7
1.4. Chapters Presentation	8
CHAPTER 2	
The Parallel Pipeline Digital VLSI 0.7 μm High Rate Fuzzy Processor	10
2.1. Introduction	10
2.2. Fuzzy Inference Scheme	10
2.3. Fuzzy Processor Main Features	12
2.4. Block Subdivision	12
2.4.1. Fuzzification Process	13
2.4.1.1. Fuzzification Process: Active Interval Selector	14
2.4.1.2. Fuzzification Process: Active Rule Selector	14
2.4.1.3. Fuzzification Process: Trapezoidal Shape Membership Function Generator	16
2.4.2. Rule Memory	18
2.4.2.1. Rule Memory: Data Organization	18
2.5. Sugeno Order Zero Defuzzifier Block: Numerator/Denominator Adder	19
2.6. Pipeline stages	20
2.7. Layout Representations	21
2.8. Input-Output Implemented Features	23
2.9. Conclusions	24
CHAPTER 3	
Applications to High Energy Physics Experiments of a High Rate 2-Input VLSI Fuzzy Processor	25
3.1. Introduction	25
3.2. Pattern Recognition	26
3.2.1. Pattern Recognition: Three Areas Problem	27
3.2.2. Pattern Recognition: Normal Convex Areas	27
3.2.3. Pattern Recognition: Rotated Convex Areas	29
3.3. Two Input Fuzzy Processor	29
3.3.1. Two Input Fuzzy Processor: Main Blocks	29
3.3.2. Two Input Fuzzy Processor: The Rule Memory	30
3.3.3. Two Input Fuzzy Processor: Rule Memory Address Generation	31
3.3.4. Two Input Fuzzy Processor: Fuzzification Process	32
3.3.5. Two Input Fuzzy Processor: Premise degree of truth computation	32
3.3.6. Two Input Fuzzy Processor: Inference & Defuzzification Processes	32

INDEX

page

3.4. Pipeline Subdivision	33
3.5. Layout Design	34
3.6. Conclusions	35
3.7. Fuzzy System Generation	36

CHAPTER 4

Silicon Drift Electronics for ALICE ITS	38
4.1. Introduction	38
4.2. Drift Electronics	38
4.3. Requirements and Trigger	39
4.3.1. Radiation Effects	40
4.4. System Architecture	41
4.4.1. Sampling and Conversion Frequency	41
4.4.2. Solutions for a First Data Reduction	42
4.4.3. Event Buffer Strategy	43
4.4.4. Front-End Power Budget	44
4.4.5. Solutions for End-Ladder Data Reduction	45
4.4.6. Test and Slow Control	46
4.5. Front-End Readout Unit Design	46
4.6. End-Ladder Design	48
4.6.1. Architecture Description	49
4.6.2. Bandwidth Allocation	51
4.6.3. Transmission protocol	51
4.6.4. CRC implementation	51
4.6.5. JTAG Protocol	51
4.6.6. Detector Control	51
4.6.7. Status of the Project	52

APPENDIX 1

Address_Generator	53
ALPHAGEN_MULTIPLY	54
ALPHA_PRODUCT_WALLACE	58
b7tob10	59
CONSEQUENT128	60
CORE	62
DIVIDER	67
F_Adder	68
Int_Selector4	68
MINIMUM	70
MULT7X4Fast	70
PROCESSOR	72
PACKGENERAL	76
Rule_Add_Gen	77

INDEX	page
Ramcode0	82
Ramcode0syn	82
Ramrule0	83
Ramrule0syn	83
Ramrule1	84
Ramrule1syn	84
Data Sheet for Block ramcode0	85
Data Sheet for Block ramrule0	85
Data Sheet for Block ramrule1	86
test_Address_Generator	86
test_Alpha_Product_Wallace	87
test_Alphagen_Multiply	88
test_b7tob10	90
test_Consequent128	90
test_Core	91
test_Divider	93
test_Int_Selector4	94
test_Processor	95
test_RuleAddGen	98
REFERENCES	99

Acronyms

ADC	Analog to Digital Converter
AFM	Adaptive Fuzzy Modeler
ALICE	A Large Ion Collider Experiment
AMBRA	multi-event buffer integrated-circuit pair
ASIC	Application Specific Integrated Circuits
CARLOS	Compression And Run Length encODing Subsystem
CLB	Configurable Logic Block
CMOS	Complementary Metal Oxide Semiconductor
CPLD	Complex Programmable Logic Device
CRC	Cyclic Redundancy Check
DAQ	Data AcQuisition system
DIU	Destination Interface Unit
DSI	Drift Silicon
ES2	European Silicon Structure
FIFO	First In First Out
FPGA	Field Programmable Gate Array
HEPE	High Energy Physics Experiments
HV	High Voltage
IC	Integrated Circuit
ID	IDentifier
IEEE	Institute of Electrical and Electronics Engineering
INFN	Istituto Nazionale Fisica Nucleare
ITS	Inner Tracking System
JTAG	Joint Test Action Group
LHC	Large Hadron Collider
LSB	Least Significant Bit
MIP	Minimum Ionizing Particle
MOS	Metal Oxide Semiconductor
MSB	Most Significant Bit
MS/s	Million Sample per Second
NEMO	NEutrino subMarine Observatory
PASCAL	analog storage and ADC architecture
PASIC	Programmable Application Specific Integrated Circuits
RAM	Random Access Memory
R&D	Research and Development
SDD	Silicon Drift Detector
SEE	Single Event Effects
SIU	Source Interface Unit
S/H	Sample and Hold
S/N	Signal to Noise
SW	Software
TDM	Time Domain Multiplexing
TM	Trade Mark
VLSI	Very Large Scale Integration