INTEGRATION OF GREEN AND RENEWABLE ENERGY IN ELECTRIC POWER SYSTEMS

ALI KEYHANI MOHAMMAD N. MARWALI MIN DAI



CONTENTS

PRI	EFACE	ix
ACKNOWLEDGMENTS		
1	SMART GRID DISTRIBUTED GENERATION SYSTEMS	1
2	INVERTER CONTROL VOLTAGE AND CURRENT IN DISTRIBUTED GENERATION SYSTEMS	26
3	PARALLEL OPERATION OF INVERTERS IN DISTRIBUTED GENERATION SYSTEMS	71
4	POWER CONVERTER TOPOLOGIES FOR DISTRIBUTED GENERATION SYSTEMS	105
5	VOLTAGE AND CURRENT CONTROL OF A THREE-PHASE FOUR-WIRE DISTRIBUTED GENERATION (DG) INVERTER IN ISLAND MODE	119
6	POWER FLOW CONTROL OF A SINGLE DISTRIBUTED GENERATION UNIT	179
7	ROBUST STABILITY ANALYSIS OF VOLTAGE AND CURRENT CONTROL FOR DISTRIBUTED GENERATION SYSTEMS	203
8	PWM RECTIFIER CONTROL FOR THREE-PHASE DISTRIBUTED GENERATION SYSTEM	224

viii CONTENTS

9 MATLAB SIMULINK SIMULATION TESTBED	234
APPENDIX A: SIMULINK MODEL DSIMSERVO.MDL	250
APPENDIX B: FILE SSMODE.M	267
BIBLIOGRAPHY	293
INDEX	310