

Antenna Systems and 6g Communication Networks

Chapter	Title	Page No.
1	EVOLUTION OF SMART ANTENNAS IN 5G AND 6G COMMUNICATION SYSTEMS	17
2	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING FRAMEWORKS FOR ADVANCED WIRELESS NETWORKS	46
3	AI-AUGMENTED SPECTRUM MANAGEMENT AND COGNITIVE RADIO NETWORKS IN 5G/6G	74
4	MACHINE LEARNING-BASED ANTENNA PARAMETER OPTIMIZATION FOR 5G BEAMFORMING APPLICATIONS	104
5	AI-ENABLED DESIGN OF RECONFIGURABLE AND METAMATERIAL ANTENNAS FOR ADVANCED WIRELESS SYSTEMS	134
6	INTELLIGENT REFLECTING SURFACE (IRS)-ASSISTED ANTENNA ARCHITECTURES FOR ENERGY-EFFICIENT 6G COMMUNICATION	163
7	DEEP LEARNING TECHNIQUES FOR BEAMFORMING AND MASSIVE MIMO CHANNEL ESTIMATION	193
8	AI-BASED CHANNEL MODELING AND PREDICTION FOR 5G/6G WIRELESS LINKS	217
9	AI-BASED CHANNEL MODELING AND PREDICTION FOR 5G/6G WIRELESS LINKS	241
10	NEURAL NETWORK-ENABLED MASSIVE MIMO AND HYBRID BEAMFORMING FOR ULTRA-RELIABLE LOW-LATENCY COMMUNICATION (URLLC)	266
11	REINFORCEMENT LEARNING IN ANTENNA ARRAY CONTROL AND RESOURCE ALLOCATION FOR 6G NETWORKS	291
12	AI-INTEGRATED SIGNAL PROCESSING FOR ANTENNA SYSTEMS IN NEXT-GENERATION NETWORKS	320

13	MACHINE LEARNING FOR INTRUSION DETECTION AND SECURE COMMUNICATION IN ANTENNA NETWORKS	348
14	BLOCKCHAIN AND FEDERATED LEARNING FOR DECENTRALIZED AI IN WIRELESS ANTENNA SYSTEMS	373
15	AI-ASSISTED ANTENNA SYSTEMS FOR AUTONOMOUS VEHICLES AND UAV COMMUNICATION NETWORKS	403
16	SMART ANTENNAS FOR IOT AND INDUSTRIAL 5G APPLICATIONS USING MACHINE LEARNING ALGORITHMS	433
17	DEEP REINFORCEMENT LEARNING FOR DYNAMIC BEAMFORMING IN MILLIMETER-WAVE AND TERAHERTZ BANDS	462