

Contents of Volume 2

	Preface	<i>vii</i>
CHAPTER 7	Scattering of Fast Particles	1
	7.1 Orbit theory and Coulomb scattering	2
	7.2 Resonant scattering	12
	7.3 Streaming of galactic cosmic rays	20
	7.4 Cosmic rays in the interplanetary medium	29
CHAPTER 8	Acceleration of Fast Particles	40
	8.1 Acceleration in astrophysics and in the magnetosphere	40
	8.2 Acceleration by Langmuir waves.	52
	8.3 Acceleration by hydromagnetic turbulence (Fermi acceleration)	66
	8.4 Fermi acceleration in the Crab Nebula and the solar corona	77
CHAPTER 9	Interpretation of Synchrotron Spectra.	87
	9.1 The frequency and the polarization	87
	9.2 Self-absorbed sources	99
	9.3 Evolution of energy spectra	106
	9.4 The anisotropy due to synchrotron emission.	117
CHAPTER 10	The Plasma Emission Processes	124
	10.1 The two-stream instability	124
	10.2 Alternative methods of generating Langmuir turbulence	136
	10.3 Nonlinear response tensors	156
	10.4 Nonlinear particle-wave and wave-wave interactions	163

CHAPTER 11	Solar Radio Bursts	177
11.1	The active solar corona and solar radio bursts	177
11.2	The propagation of type III electron streams	190
11.3	Type III emission	210
11.4	Other meter-wave solar radio bursts	234
CHAPTER 12	Radiation into the Magnetoionic Mode and Mode Coupling.	256
12.1	Properties of the magnetoionic waves.	256
12.2	Emission and absorption of magnetoionic waves	269
12.3	Mode coupling for magnetoionic and MHD modes	280
12.4	Applications of mode coupling	297
CHAPTER 13	Radiation from Rotating Magnetospheres	313
13.1	The electrodynamics of rotating magnetospheres	313
13.2	The decametric radio emission from Jupiter	327
13.3	Pulsar radio emission	340
13.4	Relativistic quantum electrodynamics for plasmas	358
	References	386
	Index	401
	List of Frequently Used Symbols	421

