

目 次

1. 基礎プラズマ物理	
1. 1 電位形成の物理	
Electrostatic Potentials of Stationary Plasma Flows Along Magnetic Well and Hill	1
Double layer formation caused by contact between different temperature plasmas	7
Formation of a large-scale potential structure along a mirror field resulting from parallel plasma flows.....	13
Control of Radial Potential Profile and Nonambipolar Ion Transport in an Electron Cyclotron Resonance Mirror Plasma	16
1. 2 静電波における非線形現象	
Evolution of electron hole and electron wave pulses in a single-ended magnetoplasma	21
MACH NUMBERA LIMIT OF ELECTRON HOLES IN BOUNDED BEAM-PLASMA SYSTEM	26
A Stationary Electron Hole Associated with a Langmuir Wave.....	37
LARGE AMPLITUDE SOLITARY WAVES IN A MULTICOMPONENT PLASMA WITH NEGATIVE IONS	41
Modified Korteweg-de Vries ion-acoustic solitons in a plasma	45
Excitation of ion-acoustic rarefactive solitons in a two-electron-temperature plasma.....	60
Nonlinear Reflection and Refraction of Planar Ion-Acoustic Plasma Solitons	64
Reflection of Ion Waves from a Bipolar Electrode in an Ion Beam-Plasma System	68

1. 3 不安定性の制御	
Control of plasma fluctuations by using shaped ferromagnetic material	73
Three-Dimensional Double Layers Inducing Ion-Cyclotron Oscillations in a Collisionless Plasma	77
Flute Stabilization of a Mirror-Confining Plasma by a Positive Ambipolar Potential	81
Control of low-frequency plasma instabilities by a nonuniform radial electric field.....	85
Physical mechanisms for hot-electron stabilization of low-frequency interchange modes	88
Nonlocal Theory of DCLC Modes in a Plasma Slab with an Ambipolar Field	93
1. 4 MHD現象における物理	
EXTERNALIY DRIVEN MAGNETIC FLELD-LINE RECONNECTIONS DUE TO FAST PULSED PLASMA CURRENT REVERSAL IN A TOKAMAK	99
Self-organization and energy relaxation in a three-dimensional magnetohydrodynamic plasma	115
SIMULATION STUDY OF THE SELF-REVERSAL PROCESS IN THE REVERSED-FLELD PINCH BASED ON A NON-LINEARLY DRIVEN RECONNECTION MODEL	123
Experimental Evidence of MHD Surface Waves	134
MACROSCALE PARTICLE SIMULATION OF KINETIC ALFVEN WAVES.....	137
2. 閉じ込め装置におけるプラズマ物理	
2. 1 環状系	
Preliminary Experiment on Electron Beam Injection for Tokamak Current Drive	141
Plasma Current Sustainment and Ramp-Up by Electron Cyclotron Waves in the WT-2 Tokamak	144
ELECTRON CYCLOTRON AND LOWER HYBRID CURRENT DRIVE EXPERIMENTS IN THE WT-2 AND WT-3 TOKAMAKS	157
Electron-Cyclotron Current Drive at the Second Harmonic in the WT-3 Tokamak	167
ICRF Heating of Currentless Plasma in Heliotron E	171
PLASMA POTENTIAL AND CONFINEMENT IN THE NAGOYA BUMOY TORUS (NBT-1M)	180
Ambipolar Electric Field and Energy Confinement Time in the Compact Helical System (CHS) Device.....	188
INITIAL RESULTS OF RFP EXPERIMENTS IN REPUTE-1	219
2. 2 開放端系	
Thermal Barrier Formation and Plasma Confinement in the Axisym- metrized Tandem Mirror GAMMA 10	227
Thermal barrier potential of a tandem mirror	231
AXISYMMETRIC MIRROR PLASMA PRODUCED, HEATED AND STABILIZED BY ICRF ONLY	240
Flute Stabilization Due to Ponderomotive Force Created by an rf Field with a Variable Gradient	247
RADIOFREQUENCY PLUGGING AND TANDEM MIRROR EXPERIMENTS IN A CUSP-ANCHORED MIRROR DEVICE	251
AZIMUTHAL NON-UNIFORMITIES INDUCED BY ICH AND ECH IN THE RFC-XX MIRROR PLASMA.....	260

PLASMA PRODUCTION WITH ROTATING ION CYCLOTRON WAVES
EXCITED BY NAGOYA TYPE-III ANTENNAS IN RFC-XX 266

3. プラズマ応用における物理

Spatial Evolution of Ion Beams Passing through a Multiple Magnetic Mirror Field.....	277
Observation of High-Energy Electrons Accelerated by Electrostatic Waves Propagating Obliquely to a Magnetic Field	287
High-Energy Electron Production by $V_p \times B$ Acceleration in Microwave-Plasma Interaction Experiments	291
EHB TYPE ION SOURCE (V)	299
ION SHEATH OF PLASMAS INCLUDING NEGATIVE IONS	303
ON SINGULAR BEHAVIOR OF PLASMA SHEATH INCLUDING NEGATIVE IONS	307
Hydrogenated amorphous silicon formation by flux control and hydrogen effects on the growth mechanism	311
Control of hydrogen content of boron thin films produced in a dc toroidal discharge	314
IN-SITU COATING OF CARBON THIN FILMS IN DC TOROIDAL DISCHARGES	317
ION IMPACT EFFECT ON CARBON COATINGS STUDIED IN A DOUBLE PLASMA DEVICE	321