

# SUBJECT INDEX

## transactions of



## fusion technology™

Volume 37, Number 2T

March 2000

CITATIONS ARE BY PAGE NUMBER

### A

Advanced concepts, tokamak, 413  
Alfvén  
  wave dynamics, 207, 217  
  wave-heating methods, 155  
Anomalous transport, 199, 271, 287,  
  296  
  magnetic turbulence, 296  
Atomic  
  beam diagnostics, 368  
  spectroscopy, 352  
Axisymmetric tokamaks, 63

### B

Beam-emission spectroscopy, 368

### C

Charge-exchange recombination spec-  
  troscopy, 368  
Confinement  
  inertial, 56, 455  
  magnetic devices, 262, 327, 344,  
  376  
  toroidal concepts, 239  
  and turbulence, 249  
Coupling of electromagnetic power to  
  plasmas, 145  
Current  
  drive, 163, 170  
  plasma heating, 163  
  toroidal plasma, 71, 170

### D

Degraded confinement and turbulence,  
  249

### Diagnostics

  atomic beam, 368  
  far-infrared and microwave plasma,  
  360  
  for fluctuation measurements, 376  
  laser-aided edge, 344  
  and plasma edge characterization,  
  336

Dielectric tensor, 118, 145

### Divertor

  dynamic ergodic, 421  
  edge physics, 413

### Drift waves

  confined toroidal plasmas, 239  
  and vortices, 229

Dynamic ergodic divertor, 421

### E

Edge physics, 413

  overview, 391

Electric fields, radial, 262, 287

Electron cyclotron waves, plasma  
  heating, 163

### Energy

  for future, 3  
  inexhaustible clean, 3  
Equations, kinetic, 63, 95, 190

### F

Far-infrared and microwave diagnos-  
  tics, 360

Flow, of plasma, flux-conserving, 35

Fluctuations, plasma, 376

Flux-conserving flow, 35

### Fusion

  inertial and magnetic, 56  
  machines, 56  
  magnetic, 327, 336  
  plasmas, 271  
Fusion Energy, inertial (IFE), 477

### G

Guiding center motion, 48

### H

### Heating

  and Alfvén, 155  
  confinement and extrapolation to  
  reactors, 400  
  electron cyclotron and current drive,  
  163  
  ion cyclotron, 155  
  lower hybrid, 155  
  by neutral beam injection, 135  
  ohmic, 135, 249  
  plasma, 135, 170  
  plasma and current drive, 163  
Helium removal and recycling, 434  
H-mode transport barrier, 262, 287,  
  445  
Homogeneous plasmas, 118

### I

Inertial confinement fusion (ICF), 56,  
  477

IFE, 56, 477

Inhomogeneous plasmas, 229

- Instabilities  
in magnetohydrodynamic (MHD),  
207  
MHD, 217  
toroidal theory, 217
- K**
- Kinetic effects  
kinetic theory, 63  
particles and waves, 95  
stellarator, 63  
Kinetic equations, 63, 95, 190  
Kinetic theory of plasma waves, 112,  
118, 128
- L**
- Laser-aided plasma diagnostics, 344
- M**
- Magnetic  
confinement devices, 262, 327, 344,  
376  
field lines, 95  
fields and plasmas, 35  
fusion, 327, 336  
turbulence, 199, 296  
waves and particles, 95  
Magnetic Fusion Energy, 56  
MHD, 207, 217  
instabilities, 207, 217  
spectroscopy, 217  
toroidal theory, 217
- N**
- Neoclassical transport theory, 190, 271  
Neutral beam injection heating, 135  
Numerical transport codes, 313
- O**
- Ohmic heating, 135  
plasmas, 249  
in tokamaks, 135
- Operational limits in tokamak ma-  
chines, 85  
Overview of tokamak results, 445
- P**
- Plasma  
coupling of electromagnetic power,  
145  
current in tokamaks, 163, 170  
diagnostics, 336  
edge characterization and diagnos-  
tics, 327  
edge, radiation phenomena, 426  
equilibrium in tokamaks, 79  
fluctuations, 376  
heating, 135, 163  
inhomogenous, 229  
magnetized, 183  
physics overview, 391  
spectroscopy, 352  
turbulence, 287  
wall interaction and conditioning,  
400  
Pump limiters, 413
- R**
- Radial electric fields, 262, 287  
Radiation phenomena, plasma edge,  
426  
Removal and recycling, helium, 434
- S**
- Spectroscopy  
atomic, 352  
beam emission, 368  
charge exchange recombination, 368  
MHD, 217  
plasma, 352  
Stellarators, 71  
Stochastic methods and anomalous  
transport, 199
- T**
- Tensor, dielectric, 118, 145
- Tokamak Experiment for Technology  
Oriented Research  
(TEXTOR), 85, 336
- Thermonuclear  
burn, 24  
fusion, 16  
Tokamak, 79, 85, 467  
advanced concepts, 467  
axisymmetric, 63  
overview, 445  
plasma current in, 163, 170  
plasma equilibrium in, 79  
waves and instabilities  
analytical, 217  
numerical, 217
- Toroidal  
confinement concepts, 71, 239  
plasma current, 71, 170  
theory of toroidal instabilities, 217  
toroidal theory of instabilities, 217
- Transport  
anomalous, 199, 271, 287, 296  
barrier, theoretical H-mode models,  
262, 287, 445  
magnetized plasmas, 183  
neoclassical theory, 190, 271  
numerical codes, 313  
perturbative experiments, 305  
stochastic methods, 199  
theory of fusion plasmas, 271
- Turbulence  
magnetic, 199, 296  
plasma, 287
- W**
- Wall interaction, 400
- Waves  
drift, and vortices, 229  
dynamics, Alfvén, 207, 217  
heating method, Alfvén, 155  
and instabilities in tokamaks  
analytical, 217  
numerical, 217  
and magnetic field lines, 95  
particles, 95  
and particles, kinetic effects, 95  
plasma, 112, 118, 128
- Z**
- Z-pinch, 79