

# Subject Index

## A

attenuation of damage, 73-82

## C

capsule withdrawal, 3-14  
cascade, 226-34  
Charpy shift, 73-82  
computer simulation, 190-6

## D

defect clusters, 226-34  
deformation zone, 134-48  
dislocation channels, 121-33  
dislocation dynamics, 197-205  
dislocations, 190-6  
ductile-to-brittle, 134-48  
ductile-to-brittle transition temperature,  
26-43, 56-72

## E

embrittlement, 83-94  
Erbium tritide, 219-25

## F

fatigue, 197-205  
FeCr alloys, 159-76  
first wall materials, 177-89  
fracture, 134-48, 197-205  
fracture toughness, 83-94

## G

grain boundaries, 190-6  
grain boundary, 83-94  
grain growth, 206-18

## H

helium, 177-89, 190-6  
helium bubbles, 219-25

## I

in-situ, 206-18  
in-situ TEM observation, 226-34  
information fusion, 95-118  
Integrated Reactor Vessel Surveillance  
Program, 3-14  
ion beam irradiation, 206-18  
ion irradiation, 226-34  
ion-irradiation, 149-56  
iron, 190-6  
irradiation embrittlement, 3-14  
irradiation hardening, 149-56

## K

kinetics, 177-89

## L

license renewal, 3-14  
Linde 80 welds, 3-14  
long-range back stress, 121-33

## M

Master Curve, 83-94  
Master Curve fracture toughness, 73-82  
mechanical twinning, 134-48  
mechanical twins, 121-33  
microstructure, 149-56, 219-25  
MIRVP, 3-14  
molecular dynamics, 190-6  
multiscale modelling, 159-76

## N

nano-indentation, 149-56  
nanocrystalline, 206-18  
neutron irradiation, 83-94  
notch tensile, 134-48

## O

ODS ferritic steel, 149-56

**P**

phosphorus segregation, 83-94  
pileup dislocations, 121-33  
post irradiation annealing, 26-43, 56-72  
power reactor, 95-118  
pressure-temperature limits, 15-25  
probabilistic fracture mechanics, 15-25

**R**

radiation damage, 95-118, 159-76, 226-34  
radiation effect, 121-33  
radiation effects, 177-89  
radiation embrittlement, 26-43, 56-72  
re-irradiation, 26-43  
reactor pressure vessel, 26-43, 56-72, 83-94  
reactor pressure vessel embrittlement,

95-118  
risk informed, 15-25  
RVSP, 3-14

**S**

simulated reactor pressure vessel wall, 73-82  
strain localization, 121-33  
strain-hardening behavior, 121-33  
structural materials, 177-89  
surveillance specimens, 56-72

**T**

TEM, 206-18  
theory and modeling, 177-89  
thermal aging, 56-72, 83-94  
thin film, 206-18  
tritium decay, 219-25