Abbreviations

ASTM	**A**merican **S**ociety for **T**esting and **M**aterials
CPE	**C**onstant **P**hase **E**lement
CRSS	**C**ritically **R**esolved **S**hear **S**tress
DT	**D**amage **T**olerance
EBSD	**E**lectron **B**ack **S**cattered **D**iffraction
EDS/EDX	**E**nergy **D**ispersive **X**-ray **S**pectroscopy
EIS	**E**lectrochemical **I**mpedance **S**pectroscopy
FCC	**F**ace **C**entered **C**ubic
FESEM	**F**ield **E**mission **T**ransmission **E**lectron **M**icroscope
GNS	**G**radient **N**ano **S**tructure
GP	**G**uinier **P**reston
HAADF	**H**igh **A**ngle **A**nnular **D**ark **F**ield
HCF	**H**igh **C**ycle **F**atigue
HCP	**H**exagonal **C**lose **P**acking
HPT	**H**igh **P**ressure **T**orsion
HRTEM	**H**igh **R**esolution **T**ransmission **E**lectron **M**icroscope

IFFT	**I**nverse **F**ast **F**ourier **T**ransform
IQ	**I**mage **Q**uality
LCF	**L**ow **C**ycle **F**atigue
MB	**M**icro **B**and
OCP	**O**pen **C**ircuit **P**otential
PA-USSP	**P**eak **A**ging followed by **U**ltra **S**onic **S**hot **P**eening **T**reatment
PA-USSP-SR	**P**eak **A**ging & **U**ltra **S**onic **S**hot **P**eening **T**reatment & **S**tress **R**elieved
PD	**P**otentio **D**ynamic
RPM	**R**otation **P**er **M**inute
SADP	**S**elected **A**rea **D**iffraction **P**attern
SC	**S**econdary **C**racks
SCC	**S**tress **C**orrosion **C**racking
SFE	**S**tacking **F**ault **E**nergy
SSP	**S**ever **S**hot **P**eening
SSRT	**S**low **S**train **R**ate **T**ensile
SSS	**S**upersaturated **S**olid **S**olution
ST-USSP-PA	**S**olution **T**reated & **U**ltra **S**onic **S**hot **P**eening **T**reatment & **P**eak **A**ging
TEM	**T**ransmission **E**lectron **M**icrographs
USSP	**U**ltra **S**onic **S**hot **P**eening
XRD	**X**- **R**ay **D**iffraction

Symbols

°C	Degree Centigrade
μm	Micrometer
nm	Nanometer
α	Alpha
θ	Theta
Wt.$\%$	Weight Percent
kHz	Kilo Hertz
mHz	Mili Hertz
mg	Mili Gram
mm	Mili Meter
ml	Mili Liter
t	Time (h)
A	Area (cm^2)
a	Lattice parameter
B	Line Broadening
D	Average crystallite Size

D_0	Initial Grain Size
k	Temperature dependent rate constant
n	Grain growth constant
R	Ideal gas constant
Q	Activation Energy
g	Gram
cm	Centimeter
h	Hour
s	Second
K	Constant (8.76 x 10^4)
W	mass loss (mg)
KN	Kilo Newton
$>$	Greater than
$<$	Less than
b	Burger Vector
λ	Wavelength
ε	Root mean square of micro-strain
β	Beta
η	Equillibrium precipitate
η'	Non-equillibrium Phase
MPa	Mega pascal
R_a	Average surface roughness

H_v	Hardness
T_t	Transition temperature
v	Poisson's Ratio
$2N_f$	Number of reversals to failure
ϵ'_f	Fatigue ductility coefficient
W'_f	Plastic strain energy density coefficient
N_i	Number of cycles to crack initiation
N_p	Number of cycles to crack propagation
I_{corr}	Corrosion current
E_{corr}	Corrosion potential
E_{pit}	Pitting potential
R_p	Polarization resistance
β_a	Anodic tafel slope
β_c	Cathodic tafel slope
Y_0	Constant phase element impednce
R_u	Solution resistance between solution and reference electrode