Ain Shams University
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Correlation of positron annihilation parameters with the mechanical properties of some Al alloys

Thesis

Submitted in Partial Fulfillment of Requirements for Master Degree of Teacher's Preparation in Science (Physics)

By

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﴿ قَالُواْ سُبۡحَٰنَكَ لَا عِلۡمَ لَنَآ
إِلَّا مَا عَلَّمۡتَنَآۖ إِنَّكَ أَنتَ
ٱلۡعَلِيمُ ٱلۡحَكِيمُ ٣٢ ﴾

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LIST OF ABBREVIATIONS

ABBREVIATION	*EXPRESSION*
CFD	Constant Fraction Discriminator
DBS	Doppler Broadening Spectroscopy
DBAR	Doppler Broadening of Annihilation Radiation
EDS	Energy Dispersive Spectroscope
EC	Electron Capture
FWHM	Full Width at Half Maximum
HV	Vickers Hardness
HMV-2	Martens Vickers Hardness
IQA	Interrupted Quenching Ageing
LT	Life Time
MBq	Mega Becquerel
MCA	Multi Channel Analyzer
o-ps	Ortho positronium
OES	Optical Emission Spectrometer
OPM	Optical Microscope
PAS	Positron Annihilation Spectroscopy
PAL	Positron Annihilation Life time
PALS	Positron Annihilation Life time Spectroscopy
PAT	Positron Annihilation Technology
Ps	Picosecond
ppm	Parts per million
RT	Room temperature
SQA	Step Quenching Ageing
SEM	Scanning Electron Microscope
T6	Solution heat treatment
TAC	Time – to – Amplitude Converter
$\mathbf{T_a}$	Aging temperature
$\mathbf{t_a}$	Aging time
UV	Ultraviolet
X- ray	Electromagnetic radiation (wavelength 0.01 to 10 nm)
XRD	X- Ray Diffraction
YS	Yield Strengths

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