

Muhammad Zakria Butt

List of Publications by Citations

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81
papers

611
citations

13
h-index

19
g-index

83
ext. papers

730
ext. citations

3
avg, IF

4.03
L-index

| # | Paper | IF | Citations |
|----|---|-----|-----------|
| 81 | Solid-solution hardening. <i>Acta Metallurgica</i> , 1978 , 26, 167-173 | | 54 |
| 80 | Solid-solution hardening in dilute alloys. <i>Acta Metallurgica</i> , 1981 , 29, 829-834 | | 30 |
| 79 | Synthesis and characterization of sol-gel derived La and Sm doped ZnO thin films: A solar light photo catalyst for methylene blue. <i>Thin Solid Films</i> , 2019 , 679, 86-98 | 2.2 | 25 |
| 78 | Surface roughness and electrical resistivity of high-purity zinc irradiated with nanosecond visible laser pulses. <i>Applied Surface Science</i> , 2014 , 305, 466-473 | 6.7 | 24 |
| 77 | Investigation of laser irradiation effects on the hardness of Al 5086 alloy under different conditions. <i>Vacuum</i> , 2010 , 85, 474-479 | 3.7 | 23 |
| 76 | Ablation yield and angular distribution of ablated particles from laser-irradiated metals: The most fundamental determining factor. <i>Applied Surface Science</i> , 2011 , 257, 2854-2860 | 6.7 | 21 |
| 75 | Deposition and characterization of multilayer DLC:Mo thin films grown on silicon substrate by off-axis pulsed laser deposition technique. <i>Applied Surface Science</i> , 2015 , 331, 407-414 | 6.7 | 20 |
| 74 | Correlation between structural and optoelectronic properties of tin doped indium oxide thin films. <i>Optik</i> , 2017 , 128, 235-246 | 2.5 | 19 |
| 73 | Structural characteristics and inverse Hall-Petch relation in high-purity nickel irradiated with nanosecond infrared laser pulses. <i>Physica B: Condensed Matter</i> , 2014 , 444, 77-84 | 2.8 | 16 |
| 72 | Surface morphology and structural characterization of high-purity iron irradiated with Nd:YAG pulsed laser. <i>Physica B: Condensed Matter</i> , 2013 , 425, 58-65 | 2.8 | 15 |
| 71 | Characterization of laser-produced plasma ions of various metals and their effect on the optical properties of the CR-39 polymer. <i>Radiation Effects and Defects in Solids</i> , 2013 , 168, 1-9 | 0.9 | 15 |
| 70 | Effect of hydrogen attack on the strength of high purity copper. <i>Journal of Materials Science Letters</i> , 1983 , 2, 1-2 | | 15 |
| 69 | Impact of copper doping in NiO thin films on their structure, morphology, and antibacterial activity against Escherichia Coli. <i>Ceramics International</i> , 2020 , 46, 5037-5049 | 5.1 | 14 |
| 68 | Structural, electrical, and mechanical characteristics of proton beam irradiated Al5086 alloy. <i>Physica B: Condensed Matter</i> , 2015 , 456, 275-282 | 2.8 | 13 |
| 67 | Structural and optical properties of CR-39 polymer implanted with laser produced plasma ions of iron. <i>Physica B: Condensed Matter</i> , 2014 , 454, 179-183 | 2.8 | 13 |
| 66 | Effect of UV laser irradiation on the hardness and structural parameters of AgxPd1-x (0.4 ≤ x ≤ 0.6) alloys. <i>Applied Surface Science</i> , 2012 , 259, 740-746 | 6.7 | 13 |
| 65 | Relation of flow stress to the mean-square amplitude of atomic vibrations in cubic metals. <i>Physical Review B</i> , 1993 , 47, 8418-8424 | 3.3 | 12 |

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| 64 | Stress equivalence of solid-solution hardening. <i>Journal of Physics Condensed Matter</i> , 1990 , 2, 5797-5808 | 1.8 | 12 |
| 63 | Effects of IR Laser Shots on the Surface Hardness and Electrical Resistivity of High-Purity Iron. <i>Journal of Materials Engineering and Performance</i> , 2014 , 23, 772-779 | 1.6 | 11 |
| 62 | Solid-solution hardening in dilute and concentrated alloys. <i>Philosophical Magazine Letters</i> , 1989 , 60, 141-145 | | 11 |
| 61 | Correlation between temperature dependence of critical resolved shear stress and nature of solute distribution in aluminium-magnesium alloys. <i>Journal of Materials Science Letters</i> , 1988 , 7, 879-880 | | 11 |
| 60 | Structural, electrical, and mechanical characterization of Al 5086 alloy irradiated with 248nm 20ns KrF excimer laser. <i>Journal of Alloys and Compounds</i> , 2017 , 695, 3069-3082 | 5.7 | 10 |
| 59 | Angular distribution of ions produced by laser ablation of magnesium with special reference to sublimation energy. <i>Vacuum</i> , 2010 , 85, 170-175 | 3.7 | 10 |
| 58 | Sensitivity of the anomalous yielding behaviour at low temperatures to the nature of solute distribution in solid-solution crystals. <i>Materials Letters</i> , 1989 , 7, 347-349 | 3.3 | 10 |
| 57 | Anomalies in the mechanical response of metals and alloys at low temperatures. <i>Scripta Metallurgica</i> , 1983 , 17, 1337-1339 | | 10 |
| 56 | Optical and electrical properties of NiO and Cu-doped NiO thin films synthesized by spray pyrolysis. <i>Optical Materials</i> , 2021 , 119, 111369 | 3.3 | 10 |
| 55 | The role of Al, Ba, and Cd dopant elements in tailoring the properties of c-axis oriented ZnO thin films. <i>Physica B: Condensed Matter</i> , 2017 , 506, 83-93 | 2.8 | 9 |
| 54 | Investigation of the activation-parameters of low-temperature slip in cubic metals. <i>European Physical Journal D</i> , 1999 , 49, 1177-1184 | | 9 |
| 53 | Creep of aluminium single crystals at low temperatures. <i>Journal of Materials Science Letters</i> , 1985 , 4, 302-304 | | 9 |
| 52 | Impact of 1064 nm 10 ns pulsed laser on the surface morphology, structure, and hardness of Pd80Ni20 alloy. <i>International Journal of Advanced Manufacturing Technology</i> , 2017 , 90, 1857-1869 | 3.2 | 8 |
| 51 | Investigation of the compositional modulations in copper-aluminium alloys. <i>Journal of Materials Science Letters</i> , 1991 , 10, 309-312 | | 8 |
| 50 | On the deviation from random distribution of solute atoms in some copper-based alloys. <i>Solid State Communications</i> , 1989 , 72, 139-141 | 1.6 | 8 |
| 49 | Investigation of morphological, structural, and mechanical characteristics of Zircaloy-4 irradiated with 3.5 MeV hydrogen ions beam. <i>Materials Research Express</i> , 2017 , 4, 096507 | 1.7 | 7 |
| 48 | The fundamental determining factor of angular emission of multiple charged ions ejected by laser ablation of different metals and their binary alloys. <i>Materials Chemistry and Physics</i> , 2012 , 137, 147-153 | 4.4 | 7 |
| 47 | Deformation behavior of nickel-chromium alloys with special reference to the nature of solute distribution. <i>Journal of Materials Science Letters</i> , 2001 , 20, 759-761 | | 7 |

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| 46 | Anomalous yielding in alloys at low temperatures. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1986 , 54, L9-L13 | | 7 |
| 45 | Solid-solution hardening in hexagonal alloys. <i>Journal of Physics F: Metal Physics</i> , 1981 , 11, L275-L279 | | 7 |
| 44 | Correlation between the temperature dependence of yield stress and the nature of solute distribution in CuNi solid solutions. <i>Journal of Alloys and Compounds</i> , 2010 , 498, 102-106 | 5-7 | 6 |
| 43 | On the strength and stress-relaxation response of fine-grain Cu _{82.2} at.%Zn _{0.6} at.%Pb alloy polycrystals. <i>Journal of Alloys and Compounds</i> , 2009 , 479, 252-256 | 5-7 | 6 |
| 42 | Analysis of observations on solid-solution hardening in KBr/Cl single crystals. <i>Journal of Materials Science</i> , 2007 , 42, 2862-2866 | 4-3 | 5 |
| 41 | Nitrogen Ions Implantation in W-Based Quad Alloy: Structure, Electrical Resistivity, Surface Roughness and Vickers Hardness as a Function of Ion Dose. <i>Metals and Materials International</i> , 2020 , 27, 3342 | 2-4 | 5 |
| 40 | Role of carbon ions implantation in modifying the structural, electrical, and mechanical properties of W _{85.57} Ni _{8.34} Cu _{1.34} Mo alloy. <i>Physica B: Condensed Matter</i> , 2019 , 573, 49-61 | 2-8 | 4 |
| 39 | Investigation of silver plasma and surface morphology from a nanosecond laser ablation. <i>Materials Chemistry and Physics</i> , 2009 , 114, 978-982 | 4-4 | 4 |
| 38 | Effect of mean-square amplitude of atomic vibrations on the creep behaviour of cubic crystals. <i>European Physical Journal D</i> , 1999 , 49, 509-513 | | 4 |
| 37 | Impact of 532 nm 6 ns laser pulses on (104) oriented zinc single crystal: surface morphology, phase transformation, and structure hardness relationship. <i>Materials Research Express</i> , 2016 , 3, 096503 | 1-7 | 4 |
| 36 | Modifications in morphological, structural, electrical and mechanical properties of Fe-1.0 wt.% Cu alloy on irradiation with 532 nm ns Nd:YAG laser shots. <i>Materials Research Express</i> , 2017 , 4, 096501 | 1-7 | 3 |
| 35 | The Inverse Hall-Petch Effect in Nd:YAG Laser Irradiated Nickel. <i>Materials Today: Proceedings</i> , 2015 , 2, 5302-5307 | 1-4 | 3 |
| 34 | Effect of heterogeneous solute distribution on the anomalous thermomechanical response of CuNi alloy single crystals below 50 K. <i>Philosophical Magazine Letters</i> , 2007 , 87, 915-922 | 1 | 3 |
| 33 | Investigation of the activation parameters of low-temperature slip in anthracene single crystals. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1993 , 67, 1379-1387 | | 3 |
| 32 | The effect of magnetic field on the scintillation efficiency of organic scintillators. <i>Acta Physica Hungarica</i> , 1992 , 71, 35-44 | | 3 |
| 31 | Mechanism of stress relaxation in alpha-iron between 77 and 360K. <i>Journal of Materials Science Letters</i> , 1987 , 6, 1055-1056 | | 3 |
| 30 | Power-like dependence of the dislocation velocity on flow stress in the kink-pair model of solid-solution hardening. <i>Journal of Materials Science Letters</i> , 1988 , 7, 1379-1380 | | 3 |
| 29 | The concentration and stress dependence of the activation volume for plastic flow in bcc solid solutions. <i>Journal of Materials Science Letters</i> , 1983 , 2, 713-714 | | 3 |

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| 28 | Effect of anomalous work-hardening on the stress-sensitivity of the relaxation-rate in polycrystalline metals at low temperatures. <i>Journal of Materials Science Letters</i> , 1984 , 3, 955-957 | | 3 |
| 27 | Impact of Carbon Ion Implantation on the Crystal Structure, Surface Morphology, Vickers Hardness and Electrochemical Corrosion of Zirconium. <i>Journal of Materials Engineering and Performance</i> , 2021 , 30, 4604-4618 | 1.6 | 3 |
| 26 | Debye-Waller Thermal Parameter of Crystalline Materials as a Determinant of their Properties in various Phases: An Overview. <i>Materials Today: Proceedings</i> , 2015 , 2, 5102-5110 | 1.4 | 2 |
| 25 | Irradiation Effects of 40 D250 keV Fe ions on Structural and Optical Properties of CR-39 Polymer. <i>Materials Today: Proceedings</i> , 2015 , 2, 5504-5509 | 1.4 | 2 |
| 24 | Hardness-Structure Relationship in Nd:YAG Laser Irradiated High-purity Zinc. <i>Materials Today: Proceedings</i> , 2015 , 2, 5537-5542 | 1.4 | 1 |
| 23 | Surface Roughness and Electrical Resistivity of High-purity Zinc Irradiated with Nd:YAG Laser Pulses. <i>Materials Today: Proceedings</i> , 2015 , 2, 5587-5591 | 1.4 | 1 |
| 22 | On the Change in Work Hardening Characteristics of Molybdenum Polycrystals Due to Natural Aging. <i>Journal of Materials Engineering and Performance</i> , 2011 , 20, 250-256 | 1.6 | 1 |
| 21 | RATE PROCESS OF YIELDING IN SOME BODY-CENTERED CUBIC ALKALI METALS. <i>International Journal of Modern Physics B</i> , 2010 , 24, 4233-4242 | 1.1 | 1 |
| 20 | Low-temperature anomaly in the creep of lead single crystals. <i>Journal of Materials Science Letters</i> , 2001 , 20, 763-765 | | 1 |
| 19 | Kinetics of Plastic Deformation in CuBr Single Crystals at Low Temperatures. <i>European Physical Journal D</i> , 2001 , 51, 819-828 | | 1 |
| 18 | The peaking effect in the internal friction of copper single crystals. <i>Journal of Materials Science Letters</i> , 1986 , 5, 155-156 | | 1 |
| 17 | Anomalies in flow stress and work-hardening coefficient of polycrystalline metals at low temperatures. <i>Journal of Materials Science Letters</i> , 1987 , 6, 54-56 | | 1 |
| 16 | On the spectrum of effective obstacles to thermally activated glide in solid solutions. <i>Journal of Physics F: Metal Physics</i> , 1981 , 11, L59-L63 | | 1 |
| 15 | Effect of Thermal Exposure on the Crystallographic Features and Surface Hardness of AA-7075-T6 Material. <i>Brazilian Journal of Physics</i> , 2021 , 51, 566-575 | 1.2 | 1 |
| 14 | A comparative study of the anodic alumina film thickness measured via SEM and evaluated using Faraday's Law. <i>Materials Research Express</i> , 2019 , 6, 046404 | 1.7 | 1 |
| 13 | Impact of Laser Fluence in Modifying the Surface Characteristics of Laser-Treated Monocrystalline Zinc. <i>Journal of Materials Engineering and Performance</i> , 2021 , 30, 320-333 | 1.6 | 1 |
| 12 | Influence of aluminum precursor nature on the properties of AZO thin films and its potential application as oxygen sensor. <i>Optical Materials</i> , 2021 , 120, 111406 | 3.3 | 1 |
| 11 | Synthesis, characterization and antibacterial performance of transparent c-axis oriented Al doped ZnO thin films. <i>Surfaces and Interfaces</i> , 2021 , 27, 101452 | 4.1 | 1 |

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| 10 | Effect of Cumulative Nanosecond Laser Pulses on the Plasma Emission Intensity and Surface Morphology of Pt- and Ag-Ion Deposited Silicon. <i>Plasma Science and Technology</i> , 2012 , 14, 333-337 | 1.5 | o |
| 9 | Investigation of antifungal response of NiO and copper-doped NiO thin films against <i>Aspergillus niger</i> and <i>Macrophomina phaseolina</i> fungi. <i>Environmental Science and Pollution Research</i> , 2021 , 1 | 5.1 | o |
| 8 | Deformation mechanism in NiAl single crystals at low temperatures. <i>Intermetallics</i> , 2015 , 57, 93-97 | 3.5 | |
| 7 | Surface-pattern geometry, topography, and chemical modifications during KrF excimer laser micro-drilling of p-type Si (111) wafers in ambient environment of HCl fumes in air. <i>Materials Research Express</i> , 2016 , 3, 115901 | 1.7 | |
| 6 | Pulsed laser deposition and characterization of Alnico5 magnetic films. <i>Applied Surface Science</i> , 2013 , 280, 975-980 | 6.7 | |
| 5 | Microstructural and Hardness Studies of Cu-10wt.%Sn Alloy Under Different Aging Conditions. <i>Journal of Materials Engineering and Performance</i> , 2008 , 17, 123-126 | 1.6 | |
| 4 | Anomalous grain growth in commercial lead. <i>Journal of Materials Science Letters</i> , 2001 , 20, 637-638 | | |
| 3 | Temperature dependence of gamma ray induced luminescence in toluene based liquid scintillator between 220 and 290 K. <i>Acta Physica Hungarica</i> , 1992 , 72, 101 | | |
| 2 | On the correlation between phonon heat capacity and anomalous mechanical response of metallic crystals. <i>Journal Physics D: Applied Physics</i> , 1982 , 15, L141-L144 | 3 | |
| 1 | Effect of thermal exposure on the strength and stress relaxation response of AA-7075-T6 material. <i>Materials Chemistry and Physics</i> , 2021 , 270, 124791 | 4.4 | |