

Maik Butterling

List of Publications by Year in descending order

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103
papers

1,206
citations

430442

18
h-index

500791

28
g-index

105
all docs

105
docs citations

105
times ranked

1460
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Design and Construction of a Slow Positron Beam for Solid and Surface Investigations. Defect and Diffusion Forum, 0, 331, 25-40. | 0.4 | 76 |
| 2 | Chemical manipulation of hydrogen induced high p-type and n-type conductivity in Ga ₂ O ₃ . Scientific Reports, 2020, 10, 6134. | 1.6 | 65 |
| 3 | Open volume defects and magnetic phase transition in Fe ₆₀ Al ₄₀ transition metal aluminide. Journal of Applied Physics, 2015, 117, . | 1.1 | 61 |
| 4 | Positron annihilation lifetime and Doppler broadening spectroscopy at the ELBE facility. AIP Conference Proceedings, 2018, , . | 0.3 | 60 |
| 5 | Voltage-Controlled ON/OFF Ferromagnetism at Room Temperature in a Single Metal Oxide Film. ACS Nano, 2018, 12, 10291-10300. | 7.3 | 57 |
| 6 | Nanocavity formation and hardness increase by dual ion beam irradiation of oxide dispersion strengthened FeCrAl alloy. Journal of Nuclear Materials, 2012, 427, 133-139. | 1.3 | 45 |
| 7 | Nuclear Deformation and Neutron Excess as Competing Effects for Dipole Strength in the Pygmy Region. Physical Review Letters, 2014, 112, 072501. | 2.9 | 43 |
| 8 | Voltage-driven motion of nitrogen ions: a new paradigm for magneto-ionics. Nature Communications, 2020, 11, 5871. | 5.8 | 42 |
| 9 | Gamma-induced Positron Spectroscopy (GiPS) at a superconducting electron linear accelerator. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 2623-2629. | 0.6 | 35 |
| 10 | A new mechanism for void-cascade interaction from nondestructive depth-resolved atomic-scale measurements of ion irradiation-induced defects in Fe. Science Advances, 2020, 6, eaba8437. | 4.7 | 32 |
| 11 | Vacancy complexes in nonequilibrium germanium-tin semiconductors. Applied Physics Letters, 2019, 114, . | 1.5 | 30 |
| 12 | Vacancy cluster in ZnO films grown by pulsed laser deposition. Scientific Reports, 2019, 9, 3534. | 1.6 | 26 |
| 13 | A new system for real-time data acquisition and pulse parameterization for digital positron annihilation lifetime spectrometers with high repetition rates. Journal of Instrumentation, 2021, 16, P08001. | 0.5 | 25 |
| 14 | Enhanced flux pinning isotropy by tuned nanosized defect network in superconducting YBa ₂ Cu ₃ O _{6+x} films. Scientific Reports, 2019, 9, 15425. | 1.6 | 24 |
| 15 | Oxidation of amorphous HfNbTaTiZr high entropy alloy thin films prepared by DC magnetron sputtering. Journal of Alloys and Compounds, 2021, 869, 157978. | 2.8 | 24 |
| 16 | Positron spectroscopy of point defects in the skyrmion-lattice compound MnSi. Scientific Reports, 2016, 6, 29109. | 1.6 | 23 |
| 17 | Magnetic response of FeRh to static and dynamic disorder. RSC Advances, 2020, 10, 14386-14395. | 1.7 | 21 |
| 18 | Release of helium from vacancy defects in yttria-stabilized zirconia under irradiation. Physical Review B, 2012, 86, . | 1.1 | 19 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Sb-related defects in Sb-doped ZnO thin film grown by pulsed laser deposition. Journal of Applied Physics, 2018, 123, . | 1.1 | 19 |
| 20 | Experimental elucidation of vacancy complexes associated with hydrogen ion-induced splitting of bulk GaN. Physical Review B, 2010, 81, . | 1.1 | 18 |
| 21 | Boosting Room-Temperature Magneto-ionics in a Non-Magnetic Oxide Semiconductor. Advanced Functional Materials, 2020, 30, 2003704. | 7.8 | 18 |
| 22 | Identification of defect properties by positron annihilation in Te-doped GaAs after Cu in-diffusion. Physical Review B, 2011, 84, . | 1.1 | 17 |
| 23 | Vacancy-Hydrogen Interaction in Niobium during Low-Temperature Baking. Scientific Reports, 2020, 10, 8300. | 1.6 | 17 |
| 24 | Depth selective magnetic phase coexistence in FeRh thin films. APL Materials, 2020, 8, . | 2.2 | 15 |
| 25 | The role of open-volume defects in the annihilation of antisites in a B2-ordered alloy. Acta Materialia, 2019, 176, 167-176. | 3.8 | 14 |
| 26 | Exploring point defects and trap states in undoped SrTiO3 single crystals. Journal of the European Ceramic Society, 2022, 42, 1510-1521. | 2.8 | 14 |
| 27 | From a non-magnet to a ferromagnet: Mn+ implantation into different TiO2 structures. Applied Physics Letters, 2015, 107, . | 1.5 | 13 |
| 28 | Magneto-ionics in Single-Layer Transition Metal Nitrides. ACS Applied Materials & Interfaces, 2021, 13, 30826-30834. | 4.0 | 13 |
| 29 | Formation and time dynamics of hydrogen-induced vacancies in nickel. Acta Materialia, 2021, 219, 117264. | 3.8 | 13 |
| 30 | Defect Nanostructure and its Impact on Magnetism of Cr_2O_3 Thin Films. Small, 2022, 18, e2201228. | 5.2 | 13 |
| 31 | Point and extended defects in heteroepitaxial $\text{In}_2\text{O}_3/\text{Ga}_2\text{O}_3$ films. Physical Review Materials, 2020, 4, . | 0.9 | 12 |
| 32 | First Experiments with MePS. Journal of Physics: Conference Series, 2013, 443, 012088. | 0.3 | 11 |
| 33 | Effect of roughness and nanoporosity on optical properties of black and reflective Al films prepared by magnetron sputtering. Journal of Alloys and Compounds, 2021, 872, 159744. | 2.8 | 11 |
| 34 | Positron annihilation spectroscopy using high-energy photons. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 334-337. | 0.8 | 10 |
| 35 | Positron Annihilation Studies on the Damp Heat Degradation of ZnO:Al Transparent Conductive Oxide Layers for CIGS Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 1847-1851. | 1.5 | 10 |
| 36 | Photon induced positron annihilation spectroscopy: A nondestructive method for assay of defects in large engineering materials. Nuclear Instruments & Methods in Physics Research B, 2012, 270, 128-132. | 0.6 | 9 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | g the anti-site disorder and oxygen vacancies in Sr $\text{Fe}_{1-x}\text{Mo}_x\text{O}$ | 1.0 | 9 |
| 38 | Progress of the EPOS project: Gamma-induced Positron Spectroscopy (GiPS). Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2451-2455. | 0.8 | 8 |
| 39 | Account of the intratrack radiolytic processes for interpretation of the AMOC spectrum of liquid water. Journal of Physics: Conference Series, 2013, 443, 012057. | 0.3 | 8 |
| 40 | Positron annihilation analysis of nanopores and growth mechanism of oblique angle evaporated TiO ₂ and SiO ₂ thin films and multilayers. Microporous and Mesoporous Materials, 2020, 295, 109968. | 2.2 | 8 |
| 41 | Zinc Oxide Defect Microstructure and Surface Chemistry Derived from Oxidation of Metallic Zinc: Thin-Film Transistor and Sensor Behavior of ZnO Films and Rods. Chemistry - A European Journal, 2021, 27, 5422-5431. | 1.7 | 8 |
| 42 | Use of superconducting linacs for positron generation: the EPOS system at the Forschungszentrum Dresden-Rossendorf (FZD). Journal of Physics: Conference Series, 2011, 262, 012003. | 0.3 | 7 |
| 43 | Nature of the Positron State in CdSe Quantum Dots. Physical Review Letters, 2018, 121, 057401. | 2.9 | 7 |
| 44 | On defects' role in enhanced perpendicular magnetic anisotropy in Pt/Co/Pt, induced by ion irradiation. Journal of Physics Condensed Matter, 2019, 31, 185801. | 0.7 | 7 |
| 45 | Characterisation of micropores in plasma deposited SiO _x films by means of positron annihilation lifetime spectroscopy. Journal Physics D: Applied Physics, 2020, 53, 475205. | 1.3 | 7 |
| 46 | Evolution and role of vacancy clusters at grain boundaries of ZnO:Al during accelerated degradation of Cu(In,Ga)Se ₂ solar cells revealed by positron annihilation. Physical Review Materials, 2018, 2, . | 0.9 | 7 |
| 47 | Evaluation of a microchannel-plate PMT as a potential timing detector suitable for positron lifetime measurements. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2010, 624, 641-645. | 0.7 | 6 |
| 48 | Ferromagnetism and structural defects in Vanadium-doped titanium dioxide. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 1106-1109. | 0.8 | 6 |
| 49 | Positron-Annihilation Lifetime Spectroscopy using Electron Bremsstrahlung. Journal of Physics: Conference Series, 2015, 618, 012042. | 0.3 | 6 |
| 50 | Electric and magnetic dipole strength in $\text{Fe}_{1-x}\text{Mn}_x\text{O}$ | | 6 |
| 51 | Critical Role of Electrical Resistivity in Magnetoionics. Physical Review Applied, 2021, 16, . | 1.5 | 6 |
| 52 | Phase evolution of Te-hyperdoped Si upon furnace annealing. Applied Surface Science, 2021, 567, 150755. | 3.1 | 6 |
| 53 | Light-driven permanent transition from insulator to conductor. Physical Review B, 2021, 104, . | 1.1 | 6 |
| 54 | Nanoscaled LiMn ₂ O ₄ for Extended Cycling Stability in the 3 V Plateau. ACS Applied Materials & Interfaces, 2022, 14, 33438-33446. | 4.0 | 6 |

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|----|---|-----|-----------|
| 55 | Investigation of Dual-Beam-Implanted Oxide-Dispersed-Strengthened FeCrAl Alloy by Positron Annihilation Spectroscopy. Defect and Diffusion Forum, 2012, 331, 149-163. | 0.4 | 5 |
| 56 | Ultrathin Co films with Pt and Au coversâ€”magnetic and structural properties driven by Ga ⁺ ion irradiation. New Journal of Physics, 2021, 23, 023015. | 1.2 | 5 |
| 57 | Microstructure and Nanoscopic Porosity in Black Pd Films. Acta Physica Polonica A, 2020, 137, 222-226. | 0.2 | 5 |
| 58 | Study of Nanoscopic Porosity in Black Metals by Positron Annihilation Spectroscopy. Acta Physica Polonica B, 2020, 51, 383. | 0.3 | 5 |
| 59 | Influence of surface activation on the microporosity of PEâ€CVD and PEâ€ALD SiO _x thin films on PDMS. Plasma Processes and Polymers, 2022, 19, . | 1.6 | 5 |
| 60 | Magnetism and Magnetoelectricity of Textured Polycrystalline Bulk Cr ₂ O ₃ Sintered in Conditions Far out of Equilibrium. ACS Applied Electronic Materials, 2022, 4, 2943-2952. | 2.0 | 5 |
| 61 | Unravelling the Origin of Ultraâ€Low Conductivity in SrTiO ₃ Thin Films: Sr Vacancies and Ti on Aâ€Sites Cause Fermi Level Pinning. Advanced Functional Materials, 2022, 32, . | 7.8 | 5 |
| 62 | Annihilation Lifetime Spectroscopy Using Positrons from Bremsstrahlung Production. Defect and Diffusion Forum, 2012, 331, 41-52. | 0.4 | 4 |
| 63 | Flash lamp annealing of tungsten surfaces marks a new way to optimized slow positron yields. Journal of Physics: Conference Series, 2013, 443, 012072. | 0.3 | 4 |
| 64 | Formation of heavy clusters in ion-irradiated compounds. Vacuum, 2019, 164, 149-152. | 1.6 | 4 |
| 65 | Thermal kinetics of free volume in porous spin-on dielectrics: Exploring the network- and pore-properties. Microporous and Mesoporous Materials, 2020, 308, 110457. | 2.2 | 4 |
| 66 | Electrical and optical properties in O-polar and Zn-polar ZnO films grown by pulsed laser deposition. Thin Solid Films, 2020, 711, 138303. | 0.8 | 4 |
| 67 | Cation non-stoichiometry in Fe:SrTiO ₃ thin films and its effect on the electrical conductivity. Nanoscale Advances, 2021, 3, 6114-6127. | 2.2 | 4 |
| 68 | Electric and magnetic dipole strength in Zn66. Physical Review C, 2021, 103, . | 1.1 | 4 |
| 69 | Tuned AFMâ€FM coupling by the formation of vacancy complex in Gd _{0.6} Ca _{0.4} MnO ₃ thin film lattice. Journal of Physics Condensed Matter, 2021, 33, 255803. | 0.7 | 4 |
| 70 | Dissolution of donor-vacancy clusters in heavily doped n-type germanium. New Journal of Physics, 2020, 22, 123036. | 1.2 | 4 |
| 71 | The mechanism behind the high radiation tolerance of Feâ€Cr alloys. Journal of Applied Physics, 2022, 131, . | 1.1 | 4 |
| 72 | Ion Intercalation in Lanthanum Strontium Ferrite for Aqueous Electrochemical Energy Storage Devices. ACS Applied Materials & Interfaces, 2022, 14, 18486-18497. | 4.0 | 4 |

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|----|---|-----|-----------|
| 73 | Study of Neutron Induced Defects in Ceramics using the GiPS Facility. Journal of Physics: Conference Series, 2013, 443, 012076. | 0.3 | 3 |
| 74 | Threshold concentration for ion implantation-induced Co nanocluster formation in TiO ₂ :Co thin films. Nuclear Instruments & Methods in Physics Research B, 2016, 389-390, 13-16. | 0.6 | 3 |
| 75 | Ferromagnetism in undoped ZnO grown by pulsed laser deposition. Materials Research Express, 2020, 7, 056102. | 0.8 | 3 |
| 76 | Mapping the Structure of Oxygen-Doped Wurtzite Aluminum Nitride Coatings from <i>Ab Initio</i> Random Structure Search and Experiments. ACS Applied Materials & Interfaces, 2021, 13, 5762-5771. | 4.0 | 3 |
| 77 | Positron Structural Analysis of ScN Films Deposited on MgO Substrate. Acta Physica Polonica A, 2020, 137, 209-214. | 0.2 | 3 |
| 78 | Defects in Thin Layers of High Entropy Alloy HfNbTaTiZr. Acta Physica Polonica A, 2020, 137, 219-221. | 0.2 | 3 |
| 79 | Radiation damage evolution in pure W and W-Cr-Hf alloy caused by 5 MeV Au ions in a broad range of dpa. Nuclear Materials and Energy, 2021, 29, 101085. | 0.6 | 3 |
| 80 | Modification of Porous Ultralow- <i>k</i> Film by Vacuum Ultraviolet Emission. ACS Applied Electronic Materials, 2022, 4, 2760-2776. | 2.0 | 3 |
| 81 | Application of Positron Annihilation Spectroscopy to the Study of Irradiated Fe-Cr Alloys. Defect and Diffusion Forum, 2012, 331, 165-179. | 0.4 | 2 |
| 82 | Investigation of H ⁺ implanted Fe-Al alloys. Journal of Physics: Conference Series, 2014, 505, 012013. | 0.3 | 2 |
| 83 | The Evidence of Quasi-Free Positronium State in GiPS-AMOC Spectra of Glycerol. Acta Physica Polonica A, 2014, 125, 821-824. | 0.2 | 2 |
| 84 | Tomographic Positron Annihilation Lifetime Spectroscopy. Journal of Physics: Conference Series, 2014, 505, 012034. | 0.3 | 2 |
| 85 | Metal oxide double layer capacitors by electrophoretic deposition of metal oxides. Fabrication, electrical characterization and defect analysis using positron annihilation spectroscopy. Journal of Materials Chemistry C, 2018, 6, 9501-9509. | 2.7 | 2 |
| 86 | An experimental investigation of light emission produced in the process of positronium formation in matter. Physical Chemistry Chemical Physics, 2021, 23, 11264-11271. | 1.3 | 2 |
| 87 | Strongly Enhanced Growth of High-Temperature Superconducting Films on an Advanced Metallic Template. Crystal Growth and Design, 2022, 22, 2097-2104. | 1.4 | 2 |
| 88 | The impact of high hydrostatic pressure maintenance after high-pressure torsion on phenomena during high hydrostatic pressure annealing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 840, 142874. | 2.6 | 2 |
| 89 | Monte-Carlo simulations for timing-system of EPOS at ELBE in Research Centre Dresden-Rossendorf. Journal of Physics: Conference Series, 2011, 265, 012027. | 0.3 | 1 |
| 90 | Low Background Digital Coincidence Spectrometer – A Tool for Investigation of Positron Annihilation in Flight. Defect and Diffusion Forum, 0, 331, 53-73. | 0.4 | 1 |

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|-----|---|-----|-----------|
| 91 | Optimization of growth parameters of TiO ₂ thin films using a slow positron beam. Journal of Physics: Conference Series, 2013, 443, 012073. | 0.3 | 1 |
| 92 | Positron annihilation in flight: experiment with slow and fast positrons. Journal of Physics: Conference Series, 2014, 505, 012043. | 0.3 | 1 |
| 93 | New insights into the nanostructure of innovative thin film solar cells gained by positron annihilation spectroscopy. Journal of Physics: Conference Series, 2017, 791, 012021. | 0.3 | 1 |
| 94 | Depth Resolved Measurements of Atomic Scale Defects in Ion Irradiated Fe Alloys. Microscopy and Microanalysis, 2019, 25, 1546-1547. | 0.2 | 1 |
| 95 | Ion-induced processes in polymer composite materials: Positron annihilation spectroscopy in combination with UV-Vis absorption and Raman spectroscopy. AIP Conference Proceedings, 2019, , . | 0.3 | 1 |
| 96 | A secret luminescence killer in deepest QWs of InGaN/GaN multiple quantum well structures. Journal of Crystal Growth, 2020, 536, 125579. | 0.7 | 1 |
| 97 | Structural Characterisation of Er Implanted, Ge-Rich SiO ₂ Layers Using Slow Positron Implantation Spectroscopy. Materials Science Forum, 2010, 666, 41-45. | 0.3 | 0 |
| 98 | Position-resolved Positron Annihilation Lifetime Spectroscopy. Journal of Physics: Conference Series, 2013, 443, 012091. | 0.3 | 0 |
| 99 | Solution synthesis and dielectric properties of alumina thin films: understanding the role of the organic additive in film formation. Dalton Transactions, 2021, 50, 8811-8819. | 1.6 | 0 |
| 100 | Zinc Oxide Defect Microstructure and Surface Chemistry Derived from Oxidation of Metallic Zinc. Thin Film Transistor and Sensoric Behaviour of ZnO Films and Rods. Chemistry - A European Journal, 2021, 27, 5312-5312. | 1.7 | 0 |
| 101 | Defect Characterization Using Positron Annihilation Spectroscopy on Laser-Ablated Surfaces. Jom, 2021, 73, 4221. | 0.9 | 0 |
| 102 | Fundamental studies on the curing behavior of porous CVD and spin-on dielectrics. , 2020, , . | | 0 |
| 103 | Manipulating magnetic and magnetoresistive properties by oxygen vacancy complexes in GCMO thin films. Journal of Physics Condensed Matter, 2022, 34, 155804. | 0.7 | 0 |