# Armin Manhard

List of Publications by Year
in descending order



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|---|---|---|---|
| 55 papers | 1,593 citations | 279487 23 h-index | 315357 38 g-index |
| 55 all docs | 55 docs citations | 55 times ranked | 1176 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Quantification of the deuterium ion fluxes from a plasma source. Plasma Sources Science and Technology, 2011, 20, 015010. | 1.3 | 95 |
| 2 | Influence of the microstructure on the deuterium retention in tungsten. Journal of Nuclear Materials, 2011, 415, S632-S635. | 1.3 | 92 |
| 3 | Comparison of hydrogen retention in W and W/Ta alloys. Journal of Nuclear Materials, 2012, 426, 247-253. | 1.3 | 82 |
| 4 | D2 gas-filled blisters on deuterium-bombarded tungsten. Journal of Nuclear Materials, 2011, 414, 69-72. | 1.3 | 77 |
| 5 | Plasmaâ€“wall interaction studies within the EUROfusion consortium: progress on plasma-facing components development and qualification. Nuclear Fusion, 2017, 57, 116041. | 1.6 | 75 |
| 6 | Interaction of nitrogen plasmas with tungsten. Nuclear Fusion, 2010, 50, 025006. | 1.6 | 73 |
| 7 | Deuterium retention and morphological modifications of the surface in five grades of tungsten after deuterium plasma exposure. Journal of Nuclear Materials, 2014, 452, 248-256. | 1.3 | 66 |
| 8 | Surface morphology and deuterium retention of tungsten after low- and high-flux deuterium plasma exposure. Nuclear Fusion, 2014, 54, 083014. | 1.6 | 60 |
| 9 | A Step-By-Step Analysis of the Polishing Process for Tungsten Specimens. Praktische Metallographie/Practical Metallography, 2013, 50, 5-16. | 0.1 | 57 |
| 10 | Hydrocarbon injection for quantification of chemical erosion yields in tokamaks. Journal of Nuclear Materials, 2007, 363-365, 1119-1128. | 1.3 | 56 |
| 11 | Overview of ASDEX Upgrade results. Nuclear Fusion, 2017, 57, 102015. | 1.6 | 53 |
| 12 | Deuterium supersaturation in low-energy plasma-loaded tungsten surfaces. Nuclear Fusion, 2017, 57, 016026. | 1.6 | 42 |
| 13 | Quantitative Microstructure and Defect Density Analysis of Polycrystalline Tungsten Reference Samples after Different Heat Treatments. Praktische Metallographie/Practical Metallography, 2015, 52, 437-466. | 0.1 | 40 |
| 14 | Blistering and re-deposition on tungsten exposed to ASDEX Upgrade divertor plasma. Journal of Nuclear Materials, 2013, 438, S220-S223. | 1.3 | 34 |
| 15 | Deuterium implantation into tungsten nitride: Negligible diffusion at 300K. Journal of Nuclear Materials, 2014, 451, 352-355. | 1.3 | 33 |
| 16 | Influence of near-surface blisters on deuterium transport in tungsten. Nuclear Fusion, 2017, 57, 086015. | 1.6 | 33 |
| 17 | Molecular dynamics study of grain boundary diffusion of hydrogen in tungsten. Physica Scripta, 2011, 2011, 014036. | 1.2 | 32 |
| 18 | Sub-surface structures of ITER-grade W (Japan) and re-crystallized W after ITER-similar low-energy and high-flux D plasma loadings. Physica Scripta, 2011, T145, 014039. | 1.2 | 32 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Effect of nitrogen seeding into deuterium plasma on deuterium retention in tungsten. Physica Scripta, 2011, T145, 014034. | 1.2 | 28 |
| 20 | Recovery temperatures of defects in tungsten created by self-implantation. Journal of Nuclear Materials, 2015, 463, 329-332. | 1.3 | 28 |
| 21 | Depth profiling of the modification induced by high-flux deuterium plasma in tungsten and tungstenâ€“tantalum alloys. Nuclear Fusion, 2014, 54, 123013. | 1.6 | 27 |
| 22 | Statistical analysis of blister bursts during temperature-programmed desorption of deuterium-implanted polycrystalline tungsten. Physica Scripta, 2011, T145, 014038. | 1.2 | 25 |
| 23 | The effect of ion flux on plasma-induced modification and deuterium retention in tungsten and tungstenâ€“tantalum alloys. Journal of Nuclear Materials, 2015, 464, 69-72. | 1.3 | 25 |
| 24 | Recent progress in the understanding of H transport and trapping in W. Physica Scripta, 2017, T170, 014037. | 1.2 | 24 |
| 25 | Sputtering of rough surfaces: a 3D simulation study. Physica Scripta, 2017, T170, 014056. | 1.2 | 24 |
| 26 | Deuterium retention in TiC and TaC doped tungsten under low-energy ion irradiation. Physica Scripta, 2014, T159, 014050. | 1.2 | 22 |
| 27 | Suppression of hydrogen-induced blistering of tungsten by pre-irradiation at low temperature. Nuclear Fusion, 2014, 54, 122003. | 1.6 | 22 |
| 28 | Influence of nitrogen pre-implantation on deuterium retention in tungsten. Physica Scripta, 2014, T159, 014023. | 1.2 | 22 |
| 29 | Effects of surface modifications on deuterium retention in F82H and EUROFER exposed to low-energy deuterium plasmas. Fusion Engineering and Design, 2016, 112, 236-239. | 1.0 | 21 |
| 30 | Microstructure and defect analysis in the vicinity of blisters in polycrystalline tungsten. Nuclear Materials and Energy, 2017, 12, 714-719. | 0.6 | 21 |
| 31 | Influence of sub-surface damage evolution on low-energy-plasma-driven deuterium permeation through tungsten. Nuclear Fusion, 2018, 58, 056027. | 1.6 | 21 |
| 32 | Plasma-wall interaction of advanced materials. Nuclear Materials and Energy, 2017, 12, 307-312. | 0.6 | 20 |
| 33 | Blister formation on rough and technical tungsten surfaces exposed to deuterium plasma. Nuclear Fusion, 2017, 57, 126012. | 1.6 | 19 |
| 34 | High-flux hydrogen irradiation-induced cracking of tungsten reproduced by low-flux plasma exposure. Nuclear Fusion, 2019, 59, 056023. | 1.6 | 17 |
| 35 | Deuterium implantation into Y 2 O 3 -doped and pure tungsten: Deuterium retention and blistering behavior. Journal of Nuclear Materials, 2017, 487, 75-83. | 1.3 | 16 |
| 36 | Hydrogen atom-ion synergy in surface lattice modification at sub-threshold energy. Acta Materialia, 2020, 201, 55-62. | 3.8 | 16 |

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|---|---|---|---|
| 37 | Hydrogen retention in tungsten materials studied by Laser Induced Desorption. Journal of Nuclear Materials, 2013, 438, S1155-S1159. | 1.3 | 15 |
| 38 | Effect of hydrogen on the slip resistance of tungsten single crystals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 559, 467-473. | 2.6 | 15 |
| 39 | Deuterium retention in solid and liquid tin after low-temperature plasma exposure. Nuclear Fusion, 2020, 60, 106007. | 1.6 | 15 |
| 40 | Deuterium retention in tungsten based materials for fusion applications. Nuclear Materials and Energy, 2019, 18, 245-249. | 0.6 | 14 |
| 41 | An SEM compatible plasma cell for in situ studies of hydrogen-material interaction. Review of Scientific Instruments, 2020, 91, 043705. | 0.6 | 13 |
| 42 | Determination of photon efficiencies and hydrocarbon influxes in the detached outer divertor plasma of ASDEX Upgrade. Physica Scripta, 2007, T128, 40-44. | 1.2 | 12 |
| 43 | Blisters formed by D plasma exposure in an electron-transparent tungsten sample. Nuclear Materials and Energy, 2018, 17, 248-252. | 0.6 | 11 |
| 44 | Deuterium retention behavior of pure and Y2O3-doped tungsten investigated by nuclear reaction analysis and thermal desorption spectroscopy. Nuclear Materials and Energy, 2018, 15, 32-42. | 0.6 | 11 |
| 45 | Addressing H-Material Interaction in Fast Diffusion Materialsâ€”A Feasibility Study on a Complex Phase Steel. Materials, 2020, 13, 4677. | 1.3 | 10 |
| 46 | Preparation of erosion and deposition investigations on plasma facing components in Wendelstein 7-X. Physica Scripta, 2017, T170, 014010. | 1.2 | 10 |
| 47 | Tungsten heavy alloy: an alternative plasma-facing material in terms of hydrogen isotope retention. Nuclear Fusion, 2020, 60, 126044. | 1.6 | 8 |
| 48 | Electrochemical study of hydrogen permeation through tungsten near room temperature. Journal of Nuclear Materials, 2015, 463, 1057-1061. | 1.3 | 6 |
| 49 | Erosion of tungsten-doped amorphous carbon films in oxygen plasma. Journal of Nuclear Materials, 2012, 420, 101-109. | 1.3 | 5 |
| 50 | Irradiation effects in tungstenâ€”From surface effects to bulk mechanical properties. Nuclear Materials and Energy, 2022, 30, 101093. | 0.6 | 5 |
| 51 | Erosion of tungsten-doped amorphous carbon films exposed to deuterium plasmas. Journal of Nuclear Materials, 2012, 426, 277-286. | 1.3 | 4 |
| 52 | Measuring deuterium permeation through tungsten near room temperature under plasma loading using a getter layer and ion-beam based detection. Nuclear Materials and Energy, 2017, 12, 703-708. | 0.6 | 4 |
| 53 | Deuterium retention in tungsten fiber-reinforced tungsten composites. Nuclear Materials and Energy, 2021, 27, 100972. | 0.6 | 3 |
| 54 | Cross section of 15N-2D nuclear reactions from 3.3 to 7.0ÂMeV for simultaneous hydrogen and deuterium quantitation in surface layers with 15N ion beams. Nuclear Instruments & Methods in Physics Research B, 2020, 478, 56-61. | 0.6 | 1 |

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| 55 | Convolutional neural networks for the in-situ investigation of blistering on plasma-exposed metal surfaces. Nuclear Materials and Energy, 2021, , 101082. | 0.6 | 1 |