# Kalle Heinola

List of Publications by Year
in descending order

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|---|---|---|---|
| 89<br>papers | 3,525<br>citations | 186265<br>28<br>h-index | 144013<br>57<br>g-index |
| 89<br>all docs | 89<br>docs citations | 89<br>times ranked | 2291<br>citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Comparative study of deuterium retention and vacancy content of self-ion irradiated tungsten. Journal of Nuclear Materials, 2022, 558, 153373. | 2.7 | 16 |
| 2 | Data on erosion and hydrogen fuel retention in Beryllium plasma-facing materials. Nuclear Materials and Energy, 2021, 27, 100994. | 1.3 | 21 |
| 3 | Comparison of JET inner wall erosion in the first three ITER-like wall campaigns. Nuclear Materials and Energy, 2021, 29, 101072. | 1.3 | 5 |
| 4 | Evaluation of tritium retention in plasma facing components during JET tritium operations. Physica Scripta, 2021, 96, 124075. | 2.5 | 14 |
| 5 | Molecular dynamics simulations of hydrogen isotope exchange in tungsten vacancies. Nuclear Materials and Energy, 2021, 29, 101099. | 1.3 | 2 |
| 6 | Determination of retained tritium from ILW dust particles in JET. Nuclear Materials and Energy, 2020, 22, 100673. | 1.3 | 7 |
| 7 | Comparative study of deuterium retention in irradiated Eurofer and Feâ€“Cr from a new ion implantation materials facility. Nuclear Fusion, 2020, 60, 016024. | 3.5 | 11 |
| 8 | Ion beam analysis of fusion plasma-facing materials and components: facilities and research challenges. Nuclear Fusion, 2020, 60, 025001. | 3.5 | 54 |
| 9 | Comparison of erosion and deposition in JET divertor during the first three ITER-like wall campaigns. Physica Scripta, 2020, T171, 014059. | 2.5 | 19 |
| 10 | Fuel inventory and material migration of JET main chamber plasma facing components compared over three operational periods. Physica Scripta, 2020, T171, 014051. | 2.5 | 20 |
| 11 | Deposition in the tungsten divertor during the 2011â€“2016 campaigns in JET with ITER-like wall. Physica Scripta, 2020, T171, 014044. | 2.5 | 11 |
| 12 | Effect of composition and surface characteristics on fuel retention in beryllium-containing co-deposited layers. Physica Scripta, 2020, T171, 014038. | 2.5 | 12 |
| 13 | Hydrogen isotope exchange mechanism in tungsten studied by ERDA. Physica Scripta, 2020, T171, 014056. | 2.5 | 1 |
| 14 | Improvements to the Sink Strength Theory Used in Multi-Scale Rate Equation Simulations of Defects in Solids. Materials, 2020, 13, 2621. | 2.9 | 4 |
| 15 | Deuterium retention on the tungsten-coated divertor tiles of JET ITER-like wall in 2015â€“2016 campaign. Fusion Engineering and Design, 2019, 146, 1979-1982. | 1.9 | 5 |
| 16 | Erosion, screening, and migration of tungsten in the JET divertor. Nuclear Fusion, 2019, 59, 096035. | 3.5 | 60 |
| 17 | The influence of carbon impurities on the formation of loops in tungsten irradiated with self-ions. Journal of Nuclear Materials, 2019, 527, 151808. | 2.7 | 24 |
| 18 | Modelling of the effect of ELMs on fuel retention at the bulk W divertor of JET. Nuclear Materials and Energy, 2019, 19, 397-402. | 1.3 | 7 |

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|---|---|---|---|
| 19 | Overview of the JET preparation for deuteriumâ€“tritium operation with the ITER like-wall. Nuclear Fusion, 2019, 59, 112021. | 3.5 | 87 |
| 20 | Beryllium melting and erosion on the upper dump plates in JET during three ITER-like wall campaigns. Nuclear Fusion, 2019, 59, 086009. | 3.5 | 45 |
| 21 | The effect of beryllium oxide on retention in JET ITER-like wall tiles. Nuclear Materials and Energy, 2019, 19, 346-351. | 1.3 | 15 |
| 22 | Deposition of impurity metals during campaigns with the JET ITER-like Wall. Nuclear Materials and Energy, 2019, 19, 218-224. | 1.3 | 23 |
| 23 | Investigation of deuterium trapping and release in the JET ITER-like wall divertor using TDS and TMAP. Nuclear Materials and Energy, 2019, 19, 166-178. | 1.3 | 18 |
| 24 | Investigation of deuterium trapping and release in the JET divertor during the third ILW campaign using TDS. Nuclear Materials and Energy, 2019, 19, 300-306. | 1.3 | 11 |
| 25 | Hydrogen isotope exchange in tungsten during annealing in hydrogen atmosphere. Nuclear Fusion, 2019, 59, 026016. | 3.5 | 15 |
| 26 | Plasma-wall interaction on the divertor tiles of JET ITER-like wall from the viewpoint of micro/nanoscopic observations. Fusion Engineering and Design, 2018, 136, 199-204. | 1.9 | 5 |
| 27 | Experimental validation of an analytical kinetic model for edge-localized modes in JET-ITER-like wall. Nuclear Fusion, 2018, 58, 066006. | 3.5 | 20 |
| 28 | On the stability and mobility of di-vacancies in tungsten. Nuclear Fusion, 2018, 58, 026004. | 3.5 | 27 |
| 29 | Correlation of surface chemical states with hydrogen isotope retention in divertor tiles of JET with ITER-Like Wall. Fusion Engineering and Design, 2018, 132, 24-28. | 1.9 | 15 |
| 30 | Thermal desorption spectrometry of beryllium plasma facing tiles exposed in the JET tokamak. Fusion Engineering and Design, 2018, 133, 135-141. | 1.9 | 19 |
| 31 | Assessment of erosion, deposition and fuel retention in the JET-ILW divertor from ion beam analysis data. Nuclear Materials and Energy, 2017, 12, 559-563. | 1.3 | 28 |
| 32 | Thermodynamics of impurity-enhanced vacancy formation in metals. Journal of Applied Physics, 2017, 121, . | 2.5 | 14 |
| 33 | Overview of the JET ITER-like wall divertor. Nuclear Materials and Energy, 2017, 12, 499-505. | 1.3 | 46 |
| 34 | Efficiency of thermal outgassing for tritium retention measurement and removal in ITER. Nuclear Materials and Energy, 2017, 12, 267-272. | 1.3 | 63 |
| 35 | Long-term fuel retention and release in JET ITER-Like Wall at ITER-relevant baking temperatures. Nuclear Fusion, 2017, 57, 086024. | 3.5 | 25 |
| 36 | Transient induced tungsten melting at the Joint European Torus (JET). Physica Scripta, 2017, T170, 014013. | 2.5 | 20 |

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| 37 | Quartz micro-balance results of pulse-resolved erosion/deposition in the JET-ILW divertor. Nuclear Materials and Energy, 2017, 12, 478-482. | 1.3 | 6 |
| 38 | Overview of the JET results in support to ITER. Nuclear Fusion, 2017, 57, 102001. | 3.5 | 150 |
| 39 | Deuterium retention in the divertor tiles of JET ITER-Like wall. Nuclear Materials and Energy, 2017, 12, 655-661. | 1.3 | 13 |
| 40 | Overview of fuel inventory in JET with the ITER-like wall. Nuclear Fusion, 2017, 57, 086045. | 3.5 | 47 |
| 41 | Impurity re-distribution in the corner regions of the JET divertor. Physica Scripta, 2017, T170, 014060. | 2.5 | 6 |
| 42 | Experience on divertor fuel retention after two ITER-Like Wall campaigns. Physica Scripta, 2017, T170, 014063. | 2.5 | 26 |
| 43 | Analyses of microstructure, composition and retention of hydrogen isotopes in divertor tiles of JET with the ITER-like wall. Physica Scripta, 2017, T170, 014031. | 2.5 | 13 |
| 44 | Erosion and deposition in the JET divertor during the second ITER-like wall campaign. Physica Scripta, 2017, T170, 014058. | 2.5 | 27 |
| 45 | Time-resolved deposition in the remote region of the JET-ILW divertor: measurements and modelling. Physica Scripta, 2017, T170, 014059. | 2.5 | 6 |
| 46 | Plasmaâ€“wall interaction studies within the EUROfusion consortium: progress on plasma-facing components development and qualification. Nuclear Fusion, 2017, 57, 116041. | 3.5 | 75 |
| 47 | Characterisation of the deuterium recycling at the W divertor target plates in JET during steady-state plasma conditions and ELMs. Physica Scripta, 2016, T167, 014076. | 2.5 | 27 |
| 48 | An interatomic potential for Wâ€“N interactions. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 065007. | 2.0 | 5 |
| 49 | Melt damage to the JET ITER-like Wall and divertor. Physica Scripta, 2016, T167, 014070. | 2.5 | 58 |
| 50 | Experience of handling beryllium, tritium and activated components from JET ITER like wall. Physica Scripta, 2016, T167, 014057. | 2.5 | 18 |
| 51 | The role and application of ion beam analysis for studies of plasma-facing components in controlled fusion devices. Nuclear Instruments & Methods in Physics Research B, 2016, 371, 4-11. | 1.4 | 18 |
| 52 | Deuterium trapping and release in JET ITER-like wall divertor tiles. Physica Scripta, 2016, T167, 014074. | 2.5 | 20 |
| 53 | Erosion and deposition in the JET divertor during the first ILW campaign. Physica Scripta, 2016, T167, 014051. | 2.5 | 58 |
| 54 | Studies of Be migration in the JET tokamak using AMS with 10Be marker. Nuclear Instruments & Methods in Physics Research B, 2016, 371, 370-375. | 1.4 | 12 |

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|---|---|---|---|
| 55 | Deposition in the inner and outer corners of the JET divertor with carbon wall and metallic ITER-like wall. Physica Scripta, 2016, T167, 014052. | 2.5 | 14 |
| 56 | Long-term fuel retention in JET ITER-like wall. Physica Scripta, 2016, T167, 014075. | 2.5 | 52 |
| 57 | Analysis of rotating collectors from the private region of JET with carbon wall and metallic ITER-like wall. Journal of Nuclear Materials, 2015, 463, 818-821. | 2.7 | 9 |
| 58 | First dust study in JET with the ITER-like wall: sampling, analysis and classification. Nuclear Fusion, 2015, 55, 113033. | 3.5 | 51 |
| 59 | Material deposition on inner divertor quartz-micro balances during ITER-like wall operation in JET. Journal of Nuclear Materials, 2015, 463, 796-799. | 2.7 | 8 |
| 60 | Fuel retention in JET ITER-Like Wall from post-mortem analysis. Journal of Nuclear Materials, 2015, 463, 961-965. | 2.7 | 50 |
| 61 | Preliminary Monte Carlo simulation of beryllium migration during JET ITER-like wall divertor operation. Journal of Nuclear Materials, 2015, 463, 800-804. | 2.7 | 3 |
| 62 | Materials migration in JET with ITER-like wall traced with a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:msup><mml:mrow /><mml:mrow><mml:mn>10</mml:mn></mml:mrow></mml:msup></mml:mrow></mml:math>Be isotopic marker. Journal of Nuclear Materials, 2015, 463, 773-776. | 2.7 | 5 |
| 63 | Beryllium migration in JET ITER-like wall plasmas. Nuclear Fusion, 2015, 55, 063021. | 3.5 | 83 |
| 64 | Global erosion and deposition patterns in JET with the ITER-like wall. Journal of Nuclear Materials, 2015, 463, 157-161. | 2.7 | 48 |
| 65 | Tile profiling analysis of samples from the JET ITER-like wall and carbon wall. Physica Scripta, 2014, T159, 014013. | 2.5 | 24 |
| 66 | Atomistic simulations of Be irradiation on W: mixed layer formation and erosion. Nuclear Fusion, 2014, 54, 083001. | 3.5 | 8 |
| 67 | The effect of beryllium on deuterium implantation in tungsten by atomistic simulations. Nuclear Fusion, 2014, 54, 123021. | 3.5 | 9 |
| 68 | Material migration patterns and overview of first surface analysis of the JET ITER-like wall. Physica Scripta, 2014, T159, 014010. | 2.5 | 75 |
| 69 | First results from the<sup>10</sup>Be marker experiment in JET with ITER-like wall. Nuclear Fusion, 2014, 54, 082004. | 3.5 | 4 |
| 70 | First results and surface analysis strategy for plasma-facing components after JET operation with the ITER-like wall. Physica Scripta, 2014, T159, 014016. | 2.5 | 30 |
| 71 | Carbonâ€“vacancy interaction controls lattice damage recovery in iron. Scripta Materialia, 2014, 86, 9-12. | 5.2 | 28 |
| 72 | Modelling of monovacancy diffusion in W over wide temperature range. Journal of Applied Physics, 2014, 115, 123504. | 2.5 | 16 |

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| 73 | Surface analysis of tiles and samples exposed to the first JET campaigns with the ITER-like wall. Physica Scripta, 2014, T159, 014012. | 2.5 | 35 |
| 74 | Evaluation of the neutron activation of JET in-vessel components following DT irradiation. Fusion Engineering and Design, 2014, 89, 2071-2075. | 1.9 | 4 |
| 75 | A brief summary of the progress on the EFDA tungsten materials program. Journal of Nuclear Materials, 2013, 442, S173-S180. | 2.7 | 69 |
| 76 | Overview of the JET results with the ITER-like wall. Nuclear Fusion, 2013, 53, 104002. | 3.5 | 70 |
| 77 | Use of the disruption mitigation valve in closed loop for routine protection at JET. Fusion Engineering and Design, 2013, 88, 1101-1104. | 1.9 | 18 |
| 78 | Comparison of JET main chamber erosion with dust collected in the divertor. Journal of Nuclear Materials, 2013, 438, S827-S832. | 2.7 | 24 |
| 79 | Hydrogen retention to impurities in tungsten: A multi-scale study. Journal of Nuclear Materials, 2013, 438, S1001-S1004. | 2.7 | 15 |
| 80 | Recent progress in research on tungsten materials for nuclear fusion applications in Europe. Journal of Nuclear Materials, 2013, 432, 482-500. | 2.7 | 610 |
| 81 | Simulation of irradiation induced deuterium trapping in tungsten. Journal of Nuclear Materials, 2012, 427, 152-161. | 2.7 | 63 |
| 82 | Review on the EFDA programme on tungsten materials technology and science. Journal of Nuclear Materials, 2011, 417, 463-467. | 2.7 | 157 |
| 83 | Hydrogen interaction with point defects in tungsten. Physical Review B, 2010, 82, . | 3.2 | 216 |
| 84 | Bond-order potential for point and extended defect simulations in tungsten. Journal of Applied Physics, 2010, 107, . | 2.5 | 76 |
| 85 | First-principles study of H on the reconstructed W(100) surface. Physical Review B, 2010, 81, . | 3.2 | 69 |
| 86 | Diffusion of hydrogen in bcc tungsten studied with first principle calculations. Journal of Applied Physics, 2010, 107, . | 2.5 | 174 |
| 87 | Deuterium irradiation-induced defect concentrations in tungsten. Physica Scripta, 2007, T128, 91-95. | 2.5 | 20 |
| 88 | Quantification of deuterium irradiation induced defect concentrations in tungsten. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 436-439. | 1.4 | 12 |
| 89 | Effect of Hydrogen on Flaking of Carbon Films on Mo and W. Physica Scripta, 2004, , 63. | 2.5 | 2 |