Magnus SchlÃ¶sser

List of Publications by Year
in descending order

55 papers	1,255 citations	430874 18 h-index	377865 34 g-index
59 all docs	59 docs citations	59 times ranked	899 citing authors

#	Article	IF	Citations
1	Improved Upper Limit on the Neutrino Mass from a Direct Kinematic Method by KATRIN. Physical Review Letters, 2019, 123, 221802.	7.8	322
2	Direct neutrino-mass measurement with sub-electronvolt sensitivity. Nature Physics, 2022, 18, 160-166.	16.7	175
3	Monitoring of the operating parameters of the KATRIN Windowless Gaseous Tritium Source. New Journal of Physics, 2012, 14, 103046.	2.9	62
4	Monitoring of all hydrogen isotopologues at tritium laboratory Karlsruhe using Raman spectroscopy. Laser Physics, 2010, 20, 493-507.	1.2	48
5	Automated Quantitative Spectroscopic Analysis Combining Background Subtraction, Cosmic Ray Removal, and Peak Fitting. Applied Spectroscopy, 2013, 67, 949-959.	2.2	41
6	Overview of R&D at TLK for process and analytical issues on tritium management in breeder blankets of ITER and DEMO. Fusion Engineering and Design, 2012, 87, 1206-1213.	1.9	39
7	Monitoring of Tritium Purity During Long-Term Circulation in the KATRIN Test Experiment LOOPINO Using Laser Raman Spectroscopy. Fusion Science and Technology, 2011, 60, 925-930.	1.1	36
8	Accurate calibration of the laser Raman system for the Karlsruhe Tritium Neutrino Experiment. Journal of Molecular Structure, 2013, 1044, 61-66.	3.6	30
9	The design, construction, and commissioning of the KATRIN experiment. Journal of Instrumentation, 2021, 16, T08015.	1.2	30
10	Commissioning of the vacuum system of the KATRIN Main Spectrometer. Journal of Instrumentation, 2016, 11, P04011-P04011.	1.2	29
11	Bound on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>3</mml:mn><mml:mo>+</mml:mo><mml:mn>1</mml:mn></mml:mrow></mml:math> Active-Sterile Neutrino Mixing from the First Four-Week Science Run of KATRIN. Physical Review Letters, 2021, 126, 091803.	7.8	29
12	First transmission of electrons and ions through the KATRIN beamline. Journal of Instrumentation, 2018, 13, P04020-P04020.	1.2	28
13	Analysis methods for the first KATRIN neutrino-mass measurement. Physical Review D, 2021, 104, .	4.7	28
14	First operation of the KATRIN experiment with tritium. European Physical Journal C, 2020, 80, 1.	3.9	26
15	The KATRIN superconducting magnets: overview and first performance results. Journal of Instrumentation, 2018, 13, T08005-T08005.	1.2	20
16	Calibration of high voltages at the ppm level by the difference of $$^{83{mathrm{m}}}$$Kr conversion electron lines at the KATRIN experiment. European Physical Journal C, 2018, 78, 1.	3.9	20
17	Accurate depolarization ratio measurements for all diatomic hydrogen isotopologues. Journal of Raman Spectroscopy, 2013, 44, 857-865.	2.5	19
18	In-Line Calibration of Raman Systems for Analysis of Gas Mixtures of Hydrogen Isotopologues with Sub-Percent Accuracy. Analytical Chemistry, 2013, 85, 2739-2745.	6.5	18

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19	Design Implications for Laser Raman Measurement Systems for Tritium Sample-Analysis, Accountancy or Process-Control Applications. Fusion Science and Technology, 2011, 60, 976-981.	1.1	16
20	Raman Spectroscopy at the Tritium Laboratory Karlsruhe. Fusion Science and Technology, 2015, 67, 555-558.	1.1	16
21	Relativistic and QED Effects in the Fundamental Vibration of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="normal">T</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml Physical Review Letters, 2018, 120, 163002.	7.8	16
22	High-resolution spectroscopy of gaseous ^{83m}Kr conversion electrons with the KATRIN experiment. Journal of Physics G: Nuclear and Particle Physics, 2020, 47, 065002.	3.6	16
23	Improved eV-scale sterile-neutrino constraints from the second KATRIN measurement campaign. Physical Review D, 2022, 105, .	4.7	14
24	New Constraint on the Local Relic Neutrino Background Overdensity with the First KATRIN Data Runs. Physical Review Letters, 2022, 129, .	7.8	14
25	Muon-induced background in the KATRIN main spectrometer. Astroparticle Physics, 2019, 108, 40-49.	4.3	12
26	Precision measurement of the fundamental vibrational frequencies of tritium-bearing hydrogen molecules: T₂, DT, HT. Physical Chemistry Chemical Physics, 2020, 22, 8973-8987.	2.8	12
27	Evaluation method for Raman depolarization measurements including geometrical effects and polarization aberrations. Journal of Raman Spectroscopy, 2013, 44, 453-462.	2.5	11
28	Quantitative Long-Term Monitoring of the Circulating Gases in the KATRIN Experiment Using Raman Spectroscopy. Sensors, 2020, 20, 4827.	3.8	11
29	Rotational level spacings in HD from vibrational saturation spectroscopy. Physical Review A, 2022, 105, .	2.5	11
30	Precision tests of nonadiabatic perturbation theory with measurements on the DT molecule. Physical Review Research, 2019, 1, .	3.6	10
31	First high-resolution spectrum and line-by-line analysis of the 2Î½2 band of HTO around 3.8Âmicrons. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 230, 61-64.	2.3	9
32	Enhanced Sensitivity of Raman Spectroscopy for Tritium Gas Analysis Using a Metal-Lined Hollow Glass Fiber. Fusion Science and Technology, 2015, 67, 547-550.	1.1	8
33	CARS spectroscopy of the $(v=0 ightarrow 1)$ band in ${{{m{T}}}_{2}}_{}$. Journal of Physics B: Atomic, Molecular and Optical Physics, 2017, 50, 214004.	1.5	7
34	Custom-built light-pipe cell for high-resolution infrared absorption spectroscopy of tritiated water vapor and other hazardous gases. Optics Express, 2019, 27, 17251.	3.4	7
35	Gamma-induced background in the KATRIN main spectrometer. European Physical Journal C, 2019, 79, 1.	3.9	6
36	The fundamental <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si73.svg"><mml:mrow><mml:msub><mml:mrow><mml:mi>Î½</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn></ band of DTO and the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si74.svg"><mml:mrow><mml:mn>2</mml:mn><mml:msub><mml:mrow><mml:mi>Î½</mml:mi></mml:mrow><mml:mrow><m overtone band of HTO from the analysis of a. Journal of Molecular Spectroscopy, 2020, 370, 111295.	1.2	6

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37	Accurate Reference Gas Mixtures Containing Tritiated Molecules: Their Production and Raman-Based Analysis. Sensors, 2021, 21, 6170.	3.8	6
38	Suppression of Penning discharges between the KATRIN spectrometers. European Physical Journal C, 2020, 80, 1.	3.9	6
39	Relative Intensity Correction of Raman Systems with National Institute of Standards and Technology Standard Reference Material 2242 in 90Â°-Scattering Geometry. Applied Spectroscopy, 2015, 69, 597-607.	2.2	5
40	First experimental photo-detachment spectrum of H2â˜'. Chemical Physics Letters, 2015, 639, 41-46.	2.6	5
41	From First Tritium Operation of the Karlsruhe Tritium Neutrino Experiment Toward Precise Determination of the Neutrino Mass. Fusion Science and Technology, 2020, 76, 170-178.	1.1	5
42	Laser Raman Spectroscopy for KATRIN. Nuclear Physics, Section B, Proceedings Supplements, 2012, 229-232, 492.	0.4	4
43	Analysis of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si48.svg"><mml:mrow><mml:msub><mml:mi>Î½</mml:mi><mml:mn>1</mml:mn></mml:msub><mml:mo linebreak="goodbreak">+</mml:mo><mml:mn>2</mml:mn><mml:msub><mml:mi>Î½</mml:mi><mml:mn>2</mml:mn></mml:msub> <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si49.svg"><mml:mrow><mml:msub><mml:mi>Î½</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo linebreak="goodbreak">+</mml:mo><mml:msub><mml:mi>Î½</mml:mi><mml:. Journal of Quantitative Spe	2.3	4
44	Reduction of stored-particle background by a magnetic pulse method at the KATRIN experiment. European Physical Journal C, 2018, 78, 1.	3.9	3
45	CAPER as Central and Crucial Facility to Support R&D with Tritium at TLK. Fusion Science and Technology, 2015, 67, 308-311.	1.1	2
46	How to Make Raman-Inactive Helium Visible in Raman Spectra of Tritium-Helium Gas Mixtures. Fusion Science and Technology, 2015, 67, 559-562.	1.1	2
47	Theory of Quantitative Raman Spectroscopy. Springer Theses, 2014, , 53-74.	0.1	2
48	Probing the Neutrino-Mass Scale with the KATRIN Experiment. Annual Review of Nuclear and Particle Science, 2022, 72, 259-282.	10.2	1
49	Radio-frequency ion deflector for mass separation. Review of Scientific Instruments, 2015, 86, 103302.	1.3	0
50	Comparison of Calibration Methods. Springer Theses, 2014, , 171-175.	0.1	0
51	Calibration Based on Theoretical Intensities and Spectral Sensitivity (Method I). Springer Theses, 2014, , 101-149.	0.1	0
52	Experimental Setup. Springer Theses, 2014, , 75-100.	0.1	0
53	Calibration Based on Accurate Gas Samples (Method II). Springer Theses, 2014, , 151-169.	0.1	0
54	The KATRIN Experiment. Springer Theses, 2014, , 31-51.	0.1	0

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55	Analysis of the Î½₁+Î½₃ band of T₂¹⁶O and the Î½ ₁ + Î½ ₃ and 2Î½₂ + Î½₃ bands of DT¹⁶O. Molecular Physics, 0, , .	1.7	0