

Personal

Name: Professor Dr. Marcus Scheck

Born:

Date of Birth:

Education

- 1978-1982 Talschule Maubach (Germany)
1982-1983 Max Born Gymnasium Backnang (Germany)
1983-1989 Max Eyth Realschule Backnang (Germany)
1989 -1992 Technisches Gymnasium Backnang (Germany)
1992 **High School Diploma** (Abitur), Grade: 2.0
1992-1993 Compulsory Military Service, Luftwaffe, Final Rank: Hauptgefreiter
1993-2000 Studies Physics, Stuttgart University, Stuttgart (Germany)
Teaching experience: Tutor Experimental Physics 1 & 2, Tutor Beginners Practical Course
2000 **Physics Diploma**, Stuttgart University
Thesis Title: *Untersuchung von 2-Phononen-Loch-Anregungen im Kern ^{137}Ba*
2000-2005 Scientific appointee, Institut fuer Strahlenphysik, Stuttgart University
Teaching responsibility: sole tutor nuclear physics practical course
2003-2004 Sideline job: Lecturer, School for Medical Technical Assistants, Katharinenhospital Stuttgart
2005 **Promotion Dr. rer. Nat.**, Grade: Magna Cum Laude, Prof. Dr. Ullrich Kneissl, Stuttgart University
Thesis Title: *Fragmentierung niedrigliegender Dipolmoden in ungeraden Kernen am $N=82$ Schalenabschluss*

Teaching: 2013-2023 Nuclear&Particle Physics (Nuclear part 2/3 of module), re-developed module

2013-2015 Introductory Physics (Laboratories), rewritten 50% of lab scripts.

2014-2016 Applied Nuclear technology (1/2 module, Lectures, Tutorials, & Laboratories), Module newly developed (incl. Labs)

2014-2019 Math for Physicists (Lectures & Tutorials), re-developed module

2014-2025 Atoms&Nuclei (atomic Part, 2/3 module), re-developed module

2016-2021 Quantum Mechanics Tutorials (1/3 module), re-developed material

2017-2022 Introductory Astronomy, re-developed module

2019-2025 Skills for Physics (Math Skills, 2/3 module) re-developed module

2023 Principles and Applications of Lasers for Changchun University of Science and Technology (developed module)

2023-2024 Nuclear&Particle Physics (full module), re-developed module

2024-2025 Properties of Matter (full module, including tutorials and laboratories, re-developed all lecture materials including tutorials and Lab sheets)

2025-2025 Atoms, Nuclei, & Particles (Atomic & particle physic 2/3 module)

2025-2025 Principles of Nuclear Physics (full module)

Module coordinator: PHYS08006 Maths for Physicists

PHYS07010 Introductory Astronomy

PHYS07005 Skills for Physics

CUST: Principles and Applications of Lasers

PHYS10001 Nuclear and Particle Physics

PHYS08004 Properties of Matter

Positions of trust

UWS internal: 3rd year leader Physics and Physics with Nuclear Technology

Physics Subject Group

Journal Referee: *Physical Review C* (2008+)

Review of Modern Physics (2009+)

Nuclear Physics A (2010+)

Physical Review Letters (2012+),

Acta Physica Polonia B (2016+),

Physics Letters B (2018+, named outstanding referee 2018 & 2024),

Acta Physica Polonia B (2016+),

Radiation and Detection (2018+),

Physica Scripta (2020+)

Nuclear Instruments and Methods in Physics A (2021+)

Nature (2025+)

Book reviewer: Cambridge University Press

CRC Press

Taylor & Francis

Grant Reviewer: NKFI Hungary (2016+)

Deutsche Forschungsgemeinschaft (2017+)

Polish Ministry of Research (2020)

UK-STFC Ernest Rutherford Fellowship (2020+)

Committees:

2015-2021 Institute of Physics – Nuclear Physics group

2017 – since Scottish Center for the Application of Plasma Acceleration (SCAPA)

Effective Management Committee

2022 – Legnaro National Laboratory (Paova, Italy) – Mid-term strategic plan

UK Governmental Institutions: Science and Technologies Facilities Council – Ernest Rutherford

Fellowship Panel (member 2016-2018, 2018 chair nuclear physics

applications)

Institute Laue Langevin, Grenoble (France): Member Program Advisory Committee

College 3: Fundamental Science (2019-2023)

PhD examiner: Dr. Valentina Liberati (2013, UWS)

Dr. Andrew Mistry 2015, (University of Liverpool, UK)

Dr. Steffen Lapp (2016, UWS)

Dr. Sana Stolze (2017, University of Jyväskylä, Finland)

Dr. Mohammed Majid Rauf (2018, UWS)

Dr. Aaron Vernon (2019, University of Manchester, UK)

Dr. Matus Balogh (2021, Comenius University, Bratislava, Slovakia)

Dr. Andrew Dale MacLean (2021, University of Guelph, Guelph, Canada)

Dr. Fan Zhu (2023, Liverpool University, UK)

Conference organization

- | | |
|---------|--|
| 2017/18 | <i>Institute of Physics - Nuclear Physics Conference, Paisley, April 4th-6th 2018</i> |
| 2018/19 | <i>Workshop of the nuclear octupole degree of freedom, Paisley, July 25th -26th 2019</i> |
| 2018/19 | <i>International Nuclear Physics Conference, Glasgow, July 28th-August 2nd 2019</i> |

Prizes

- | | |
|------|--|
| 2014 | Results from collaboration IS475 from ISOLDE-CERN (I was spokesperson)
elected by Physics World of the Institute of Physics as one of top-10
breakthroughs in physics 2013 |
| 2014 | UWS Stars award (category: best researcher) runner up |
| 2015 | UWS Stars award (category: best researcher) runner up |



Research (ORCID-ID: 0000-0002-9624-3909)

2024 **Publications:** 121 peer-reviewed journal articles: 17x 1st author, 16x main author, 3 invited
 58 conference proceedings: 7x 1st author, 3x main author
 19 Experiment proposals as spokesperson (all successful)
 4951 citations¹; h-index¹: 36
Oral contributions/Seminars¹: 27x invited, 26x talk as standard participant

Outreach to public

Activities: 6x Public Talk, regularly STEM fairs and visit to schools.
Collaborations: Coats Observatory Paisley (2013-2025)
 Glasgow Science Center – Meet the expert program (2013-2025)
 Renfrewshire Astronomical Society (2019-2025)
Media Interaction: 1x BBC Radio Scotland Interview
 Countless media reports following the publication of the ‘Going pear-shaped’ article in Nature.

Most important achievements relevant to the position

- Recognition of importance of branches of dipole-excited levels to lower-lying excited states and the consequences for the photo-strength function
 (publication list/articles in peer-reviewed journals: [42] doi: 10.1103/PhysRevC.87.051304)
- Population of levels associated with the Pygmy Dipole Resonance (PDR) in β decay and the link of the PDR and the reactor antineutrino anomaly
 (publication list/articles in peer-reviewed journals: [69] doi: 10.1103/Phys.Rev.Lett.116.132501 and [101] doi: 10.1016/j.physletb.2021.136569)
- Establishing octupole correlations in radium nuclear near $A \sim 224$ leading to the quadrupole-octupole enhancement of a possible nuclear Schiff moment
 (publication list/articles in peer-reviewed journals: [46] doi: 10.1038/nature12073, [86] doi: 10.1038/s41467-020-17309-y, and [106] doi: 10.1103/PhysRevC.105.024323)

¹ Source: Google scholar <https://scholar.google.com/citations?user=ILbT2r4AAAAJ&hl=de> (accessed 03/11/2025)

MINIMAL STANDARDS APPLICABLE AT IFIN-HH
for being awarded the professional ranks of
First Stage Researcher (Research Scientist - CS) and
Recognised Researcher (3rd rank Research Scientist - CS III)

The numbers correspond the entries in publication list/ articles in peer-reviewed journals; However, for control purposes the article reference and doi is provided. For time-effectiveness reasons, I used only a few high-profile publications that result in a score exceeding the demanded 1.5.

Minimal Standards Self-Assessment Form:

Category of Articles	Position in the List of Papers	Score	Calculation Details
Articles in ISI Thomson Reuters ranked journals and in ISI Proceedings indexed volumes for which the candidate is not a first author or a corresponding author	[46]	a_i/n_i^{ef} =22.1/22 =1.0	<i>Studies of nuclear pear shapes using accelerated radioactive beams</i> Nature 497 (2013) 199 doi: 10.1038/nature12073
	[86]	a_i/n_i^{ef} =5.5/20 =0.275	<i>The observation of vibrating pear shapes in radon nuclei</i> Nature Communications 10 , 2473 (2019) doi: 10.1038/s41467-019-10494-5 <i>Addendum: The observation of vibrating pear-shapes in radon nuclei</i> Nature Communications doi: 10.1038/s41467-020-17309-y
	[93]	a_i/n_i^{ef} =12.1/7 =1.73	Nature Physics 16 (2020) 853 doi: 10.1038/s41567-020-0899-4
Articles in ISI Thomson Reuters ranked journals and in ISI Proceedings indexed volumes for which the candidate is a first author or a corresponding author	[69]	$a_i = 3.3$	<i>Investigating the Pygmy Dipole Resonance Using β Decay</i> Phys. Rev. Lett. 116 , (2016) 132501 doi: 10.1103/Phys.Rev.Lett.116.132501
	[101]	$a_i = 1.5$	<i>Structure of high-lying levels populated in the $96Y \rightarrow 96Zr$ β decay</i> Phys. Lett. B820 (2021) 136569 doi: 10.1016/j.physletb.2021.136569
	...		
TOTAL		>7.75	

Publications, Experiment Proposals, Presentations, and Thesis

Dr. rer. nat. Marcus Scheck

Articles in peer-reviewed journals

- [1] C. Kohstall, D. Belic, P. von Brentano, C. Fransen, R.-D. Herzberg, J. Jolie, U. Kneissl, H. Lehmann, A. Linnemann, P. Matschinsky, A. Nord, N. Pietralla, H. H. Pitz, **M. Scheck**, F. Stedile, V. Werner, and S. W. Yates
Low-Lying Dipole Excitations in the Stable Cd-Isotopes : A Systematics
Physics of Atomic Nuclei **64** (2001) 1143
doi: 10.1134/1.1383631
- [2] F. Stedile, E. Fill, D. Belic, P. von Brentano, A. Gade, C. Fransen, U. Kneissl, C. Kohstall, A. Linnemann, P. Matschinsky, A. Nord, N. Pietralla, H. H. Pitz, **M. Scheck**, and V. Werner
Low-lying dipole excitations in the odd-proton, mid-shell nucleus ^{103}Rh
Phys. Rev. C **63** (2001) 024320
doi: 10.1103/PhysRevC.63.024320
- [3] F. Stedile, E. Fill, D. Belic, P. von Brentano, C. Fransen, U. Kneissl, C. Kohstall, A. Linnemann, P. Matschinsky, A. Nord, N. Pietralla, H. H. Pitz, **M. Scheck**, V. Werner
Generating Inversion on a Nuclear System: Photo-Pumping of ^{103}Rh
J. Phys. IV France 11 (2001) Pr. 2, 271.
- [4] J. Bryssinck, L. Govor, F. Bauwens, D. Belic, P. von Brentano, D. De Frenne, C. Fransen, A. Gade, E. Jacobs, U. Kneissl, C. Kohstall, A. Linnemann, A. Nord, N. Pietralla, H. H. Pitz, **M. Scheck**, F. Stedile, and V. Werner
Low-energy electromagnetic excitation strength in ^{121}Sb and ^{123}Sb
Phys. Rev. C **65** (2002) 024313
doi: 10.1103/PhysRevC.65.024313
- [5] L. Käubler, K. D. Schilling, R. Schwengner, F. Döna, E. Grosse, D. Belic, P. von Brentano, M. Bubner, C. Fransen, M. Grinberg, U. Kneissl, C. Kohstall, A. Linnemann, P. Matschinsky, A. Nord, N. Pietralla, H. H. Pitz, **M. Scheck**, F. Stedile, and V. Werner
The influence of the $N = 50$ neutron-core on dipole excitations in ^{87}Rb
Phys. Rev. C **65** (2002) 054315
doi: 10.1103/PhysRevC.65.054315
- [6] V. Werner, D. Belic, P. von Brentano, C. Fransen, A. Gade, H. von Garrel, J. Jolie, U. Kneissl, C. Kohstall, A. Linnemann, A. F. Lisetskiy, N. Pietralla, H. H. Pitz, **M. Scheck**, K.-H. Speidel, F. Stedile, and S. W. Yates
Proton-neutron structure of the $N=52$ nucleus ^{92}Zr
Phys. Lett. B **550** (2002) 140
doi: 10.1016/S0370-2693(02)02961-1

- [7] A. Gade, D. Belic, P. von Brentano, C. Fransen, H. von Garrel, J. Jolie, U. Kneissl, C. Kohstall, A. Linnemann, H. H. Pitz, **M. Scheck**, F. Stedile, and V. Werner
Dipole excitations in ^{108}Cd
 Phys. Rev. C **67** (2003) 034304
 doi: 10.1103/PhysRevC.67.034304
- [8] **M. Scheck**, D. Belic, P. von Brentano, J. J. Carroll, A. Gade, H. von Garrel, U. Kneissl, C. Kohstall, A. Linnemann, N. Pietralla, H. H. Pitz, F. Stedile, R. Toman, and V. Werner
Photon scattering experiments off ^{176}Hf and the systematics of low-lying dipole modes in the stable even-even Hf isotopes $^{176,178,180}\text{Hf}$
 Phys. Rev. C **67** (2003) 064313
 doi: 10.1103/PhysRevC.67.064313
- [9] **M. Scheck**, P. von Brentano, C. Fransen, A. Gade, H. von Garrel, J. Jolie, U. Kneissl, C. Kohstall, A. Linnemann, N. Pietralla, H. H. Pitz, F. Stedile, S. Walter, and V. Werner
Low-Lying Dipole Excitations in Nuclei in the Mass Regions of the New Dynamical Symmetries
 Physics of Atomic Nuclei Vol. **67**, No. 9 (2004) 1682
 doi: 10.1134/1.1806907
- [10] A. Gade, N. Pietralla, N. A. Smirnova, P. von Brentano, D. Belic, C. Fransen, U. Kneissl, C. Kohstall, A. Linnemann, H. H. Pitz, **M. Scheck**, F. Stedile, and V. Werner
Investigation of dipole excitations in ^{142}Ce using resonant photon scattering
 Phys. Rev. C **69** (2004) 054321
 doi: 10.1103/PhysRevC.69.054321
- [11] **M. Scheck**, H. von Garrel, N. Tsoneva, D. Belic, P. von Brentano, C. Fransen, A. Gade, J. Jolie, U. Kneissl, C. Kohstall, A. Linnemann, A. Nord, N. Pietralla, H. H. Pitz, F. Stedile, C. Stoyanov, and V. Werner
Dipole strength distributions in the stable Ba isotopes $^{134,135,136,137,138}\text{Ba}$: A study in the mass region of a nuclear shape transition
 Phys. Rev. C **70** (2004) 044319
 doi: 10.1103/PhysRevC.70.044319
- [12] T. C. Li, N. Pietralla, C. Fransen, H. von Garrel, U. Kneissl, C. Kohstall, A. Linnemann, H. H. Pitz, G. Rainovski, A. Richter, **M. Scheck**, F. Stedile, P. von Brentano, P. von Neumann-Cosel, and V. Werner
One-phonon $2_{1,ms}^+$ mixed-symmetry state of ^{148}Sm observed in nuclear resonance fluorescence
 Phys. Rev. C **71** (2005) 044318
 doi: 10.1103/PhysRevC.71.044318
- [13] A. Linnemann, C. Fransen, M. Gorska, J. Jolie, U. Kneissl, P. Knoch, D. M"ucher, H. H. Pitz, **M. Scheck**, C. Scholl, and P. von Brentano
Dipole excitations in ^{96}Ru
 Phys. Rev. C **72** (2005) 064323
 doi: 10.1103/PhysRevC.72.064323

- [14] G. Rusev, R. Schwengner, F. Dönau, S. Frauendorf, L. Käubler, L. K. Kostov, S. Mallion, K. D. Schilling, A. Wagner, E. Grosse, H. von Garrel, U. Kneissl, C. Kohstall, M. Kreutz, H. H. Pitz, **M. Scheck**, F. Stedile, P. von Brentano, J. Jolie, A. Linnemann, N. Pietralla, and V. Werner
Decay of 1^+ States as a New Probe of the Structure of 0^+ Shape Isomers
 Phys. Rev. Lett. **95** (2005) 062501
 doi: 10.1103/PhysRevLett.95.062501
- [15] C. Kohstall, D. Belic, P. von Brentano, C. Fransen, A. Gade, R.-D. Herzberg, J. Jolie, U. Kneissl, A. Linnemann, A. Nord, N. Pietralla, H. H. Pitz, **M. Scheck**, F. Stedile, V. Werner, and S. W. Yates
Low-lying dipole excitations in vibrational nuclei: The Cd isotopic chain studied in photon scattering experiments
 Phys. Rev. C **72** (2005) 034302
 doi: 10.1103/PhysRevC.72.034302
- [16] I. Pysmenetska, S. Walter, J. Enders, H. von Garrel, O. Karg, U. Kneissl, C. Kohstall, P. von Neumann-Cosel, H. H. Pitz, V. Yu. Ponomarev, **M. Scheck**, F. Stedile, and S. Volz
Two-phonon 1^- state in ^{112}Sn observed in resonant photon scattering
 Phys. Rev. C **73** (2006) 017302
 doi: 10.1103/PhysRevC.73.017302
- [17] G. Rusev, R. Schwengner, F. Dönau, M. Erhard, S. Frauendorf, E. Grosse, A. R. Junghans, L. Käubler, K. Kosev, L. K. Kostov, S. Mallion, K. D. Schilling, A. Wagner, H. von Garrel, U. Kneissl, C. Kohstall, M. Kreutz, H. H. Pitz, **M. Scheck**, F. Stedile, P. von Brentano, C. Fransen, J. Jolie, A. Linnemann, N. Pietralla, and V. Werner
Systematics of magnetic dipole strength in the stable even-mass Mo isotopes
 Phys. Rev. C **73** (2006) 044308
 doi: 10.1103/PhysRevC.73.044308
- [18] H. von Garrel, P. von Brentano, C. Fransen, G. Friessner, N. Hollmann, J. Jolie, F. Käppeler, L. Käubler, U. Kneissl, C. Kohstall, L. Kostov, A. Linnemann, D. Mücher, N. Pietralla, H. H. Pitz, G. Rusev, **M. Scheck**, K. D. Schilling, C. Scholl, R. Schwengner, F. Stedile, S. Walter, V. Werner, and K. Wisshak
Low-lying $E1$, $M1$, and $E2$ strength distributions in $^{124,126,128,129,130,131,132,134,136}\text{Xe}$: Systematic photon scattering experiments in the mass region of a nuclear shape or phase transition
 Phys. Rev. C **73** (2006) 054315
 doi: 10.1103/PhysRevC.73.054315
- [19] J. N. Orce, C. Fransen, A. Linnemann, C. J. McKay, S. R. Lesher, N. Pietralla, V. Werner, G. Friessner, C. Kohstall, D. Mücher, H. H. Pitz, **M. Scheck**, C. Scholl, F. Stedile, N. Warr, S. Walter, P. von Brentano, U. Kneissl, M. T. McElistrem, and S. W. Yates
Lifetime measurements in ^{93}Nb from photon and inelastic neutron scattering
 Phys. Rev. C **75** (2007) 014303
 doi: 10.1103/PhysRevC.75.014303

- [20] A. Linnemann, C. Fransen, J. Jolie, U. Kneissl, P. Knoch, C. Kohstall, D. M $\ddot{u}$ cher, H. H. Pitz, **M. Scheck**, C. Scholl, F. Stedile, P. von Brentano, N. Warr, and V. Werner
Low-lying $J=1$ states in ^{106}Cd
 Phys. Rev. C **75** (2007) 024310
 doi: 10.1103/PhysRevC.75.024310
- [21] E. Elhami, J. N. Orce, S. Mukhopadhyay, S. N. Choudry, **M. Scheck**, M. T. McEllistrem, and S. W. Yates
Anomalous behavior of the 2^+ mixed-symmetry state in ^{94}Zr
 Phys. Rev. C **75** (2007) 011301(R);
 Erratum Phys. Rev. C **88** (2013) 029902(E)
 doi: 10.1103/PhysRevC.75.011301
- [22] S. Walter, F. Stedile, J. J. Carrol, C. Fransen, G. Friessner, N. Hollmann, H. von Garrel, J. Jolie, O. Karg, F. K $\ddot{a}$ ppeler, U. Kneissl, C. Kohstall, P. von Neumann-Cosel, A. Linnemann, D. M $\ddot{u}$ cher, N. Pietralla, H. H. Pitz, G. Rusev, **M. Scheck**, C. Scholl, R. Schwengner, V. Werner, and K. Wisshak
Photon scattering experiments on the quasistable, odd-odd mass nucleus ^{176}Lu
 Phys. Rev. C **75** (2007) 034301
 doi: 10.1103/PhysRevC.75.034301
- [23] **M. Scheck**, P. von Brentano, C. Fransen, U. Kneissl, C. Kohstall, A. Linnemann, D. M $\ddot{u}$ cher, N. Pietralla, H. H. Pitz, C. Scholl, F. Stedile, S. Walter, V. Werner, and S. W. Yates
Dipole strength distributions of the stable odd-mass $N=82$ isotones ^{139}La and ^{141}Pr
 Phys. Rev. C **75** (2007) 044313
 doi: 10.1103/PhysRevC.75.044313
- [24] S. R. Leshner, J. N. Orce, Z. Ammar, C. D. Hannant, M. Merrick, N. Warr, T. B. Brown, N. Boukharouba, C. Fransen, **M. Scheck**, M. T. McEllistrem, and S. W. Yates
Study of 0^+ excitations in ^{158}Gd with the $(n, n'\gamma)$ reaction
 Phys. Rev. C **76** (2007) 034318
 doi: 10.1103/PhysRevC.76.034318
- [25] J. N. Orce, S. N. Choudry, B. Crider, E. Elhami, S. Mukhopadhyay, M. T. McEllistrem, **M. Scheck**, and S. W. Yates
 $2_1^+ \rightarrow 0_1^+$ transition strengths in Sn nuclei
 Phys. Rev. C **76** (2007) 021302;
 Erratum Phys. Rev. C **77**(2008) 029902
 doi: 10.1103/PhysRevC.76.021302
- [26] J. N. Orce, B. Crider, S. Mukhopadhyay, E. Peters, E. Elhami, **M. Scheck**, B. Singh, M. T. McEllistrem, and S. W. Yates
Determination of the $2_1^+ \rightarrow 0_1^+$ transition strengths in ^{58}Ni and ^{60}Ni
 Phys. Rev. C **77** (2008) 064301
 doi: 10.1103/PhysRevC.77.064301

- [27] **M. Scheck**, S. N. Choudry, E. Elhami, S. Mukhopadhyay, M. T. McEllistrem, J. N. Orce, and S. W. Yates
Pauli blocking in the low-lying, low-spin states of ^{141}Pr
 Phys. Rev. C **78** (2008) 034302
 doi: 10.1103/PhysRevC.78.034302
 Erratum: Phys. Rev. C **95** (2017) 039908
 doi: 10.1103/PhysRevC.95.039908
- [28] S. Mukhopadhyay, **M. Scheck**, B. Crider, S. N. Choudry, E. Elhami, E. E. Peters, M. T. McEllistrem, J. N. Orce, and S. W. Yates
Multiphonon states in $^{136}_{56}\text{Ba}_{80}$
 Phys. Rev. C **78** (2008) 034317
 doi: 10.1103/PhysRevC.78.034317
- [29] E. Elhami, J. N. Orce, **M. Scheck**, S. Mukhopadhyay, S. N. Choudry, M. T. McEllistrem, S. W. Yates, C. Angell, M. Boswell, B. Fallin, C. R. Howell, A. Hutcheson, H. J. Karwowski, J. H. Kelley, Y. Parpottas, A. P. Tonchev, and W. Tornow
Experimental study of low-lying structure of ^{94}Zr with the $(n,n'\gamma)$ reaction
 Phys. Rev. C **78** (2008) 064303;
 Erratum: Phys. Rev. C **88** (2013) 029903(E)
 doi: 10.1103/PhysRevC.78.064303
- [30] T. Grahn, A. Petts, **M. Scheck**, P. A. Butler, A. Dewald, M. B. Gómez Hornillos, P. T. Greenlees, A. Görgen, K. Helariutta, J. Jolie, P. Jones, R. Julin, S. Juutinen, S. Ketelhut, R. Krücken, T. Kröll, M. Leino, J. Ljungvall, P. Maiorbeck, B. Melon, M. Nyman, R. D. Page, Th. Pissulla, P. Rahkila, J. Sarén, C. Scholey, A. Semchenkov, J. Sorri, J. Uusitalo, R. Wadsworth, and M. Zielińska
Evolution of collectivity in ^{180}Hg and ^{182}Hg
 Phys. Rev. C **80** (2009) 014324
 doi: 10.1103/PhysRevC.80.014324
- [31] A. Ekström, J. Cederkäll, D. D. DiJulio, C. Fahlander, M. Hjorth-Jensen, P. A. Butler, T. Davidson, J. Eberth, M. Huyse, J. Iwanicki, O. Kester, J. Kownacki, U. Köster, B. A. Marsh, **M. Scheck**, B. Siebeck, S. Siem, I. Stefanescu, H. Toft, G. M. Tveten, J. van de Walle, P. van Duppen, D. Voulot, N. Warr, D. Weisshaar, F. Wenander, K. Wrozek, and M. Zielińska
Electric quadrupole moments of the 2^+_1 states in $^{100,102,104}\text{Cd}$
 Phys. Rev. C **80** (2009) 054302
 doi: 10.1103/PhysRevC.80.054302
- [32] **M. Scheck**, P. A. Butler, C. Fransen, V. Werner, and S. W. Yates
Strong $M1$ components in $3^-_i \rightarrow 3^-_1$ in nearly spherical nuclei: Evidence for isovector-octupole excitations
 Phys. Rev. C **81** (2010) 064305
 doi: 10.1103/PhysRevC.81.064305

- [33] **M. Scheck**, T. Grahm, A. Petts, P. A. Butler, A. Dewald, L. P. Gaffney, M. B. Gómez Hornillos, P. T. Greenlees, A. Görgen, K. Helariutta, J. Jolie, P. Jones, R. Julin, S. Juutinen, S. Ketelhut, R. Krücken, T. Kröll, M. Leino, J. Ljungvall, P. Maierbeck, B. Melon, M. Nyman, R. D. Page, J. Pakarinen, E. S. Paul, Th. Pissulla, P. Rahkila, J. Sarén, C. Scholey, A. Semchenkov, J. Sorri, J. Uusitalo, R. Wadsworth, and M. Zielinska
Lifetimes of odd-spin Yrast states in ^{182}Hg
 Phys. Rev. C **81** (2010) 014310
 doi: 10.1103/PhysRevC.81.014310
- [34] J. Endres, E. Litvinova, D. Savran, P. A. Butler, M. N. Harakeh, S. Harissopulos, R.-D. Herzberg, R. Krücken, A. Lagoyannis, N. Pietralla, V. Yu. Ponomarev, L. Popescu, P. Ring, **M. Scheck**, K. Sonnabend, V. I. Stoica, H. J. Wörtche, and A. Zilges
Isospin Character of the Pygmy Dipole Resonance in ^{124}Sn
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Invited articles

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Vom Fussball zum Rugbyball - Zirkoniumisotope verändern ihre Gestalt durch Anregung und mit wachsender Neutronenzahl

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A new avenue in the search for CP/time-reversal violation - Mössbauer spectroscopy of ^{227}Ac

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Photo-response of the $N = Z$ nucleus ^{24}Mg

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Do nuclei go pear-shaped? Coulomb excitation of ^{220}Rn and ^{224}Ra at REX-ISOLDE (CERN)

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Decay pattern of the Pygmy Dipole Resonance in ^{140}Ce

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Lifetime measurement in neutron-rich $A \approx 100$ nuclei

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A study on the transition between seniority-type and collective excitations in
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Nuclear Structure and Related Topics, Burgas (Bulgaria), June 3rd–9th, 2018

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Search for Isovector Valence-Shell Excitations in ^{140}Nd and ^{142}Sm via Coulomb-
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Lifetime measurements of the low-lying excited states of ^{208}Po

XXIII International School on Nuclear Physics, Neutron Physics and Applications, Varna, Bulgaria, September 23rd–27th, 2019

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Coulomb Excitation of Proton-rich $N = 80$ Isotones at HIE-ISOLDE

XXIII International School on Nuclear Physics, Neutron Physics and Applications, Varna, Bulgaria, September 23rd–27th, 2019

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Candidates for low-lying octupole isovector (mixed-symmetry) excitations

XVIIth Symposium on Capture γ -ray Spectroscopy and related topics, Grenoble (France), July 17th–22nd, 2023

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Study of the transition from single-particle to collective behaviour in Po isotopes

XVIIth Symposium on Capture γ -ray Spectroscopy and related topics, Grenoble (France), July 17th–22nd, 2023

EPJ Web of Conference **329** (2025) 01008

doi: 10.1051/epjconf/202532901008

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Investigation of excited states in ^{76}As of interest for $0\nu\beta\beta$ decay XVIIth Symposium on Capture γ -ray Spectroscopy and related topics, Grenoble (France), July 17th–22nd, 2023
EPJ Web of Conference **329** (2025) 01016
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Experiment proposals (spokesperson only)

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- [2] T. Grahm, **M. Scheck**, A. Andreyev, B. Bastin, T. Behrens, V. Bildstein, N. Bree, P. A. Butler, M. Carpenter, A. Dewald, J. Diriken, C. Dossat, T. Fästermann, R. Gernhäuser, A. Görgen, P. T. Greenlees, M. Hackstein, R. -D. Herzberg, M. Huyse, O. Ivanov, J. Iwanicki, H. Iwasaki, R. V. F. Janssens, J. Jolie, D. T. Joss, R. Julin, S. Juutinen, F. Kondev, W. Korten, Th. Kröll, R. Krücken, J. Ljungvall, M. Mahgoub, P. Maierbeck, O. Möller, P. J. Napiorkowski, D. O'Donnell, R. D. Page, J. Pakarinen, N. Patronis, E. S. Paul, A. Petts, P. Peura, Th. Pissulla, W. Rother, J. Simpson, J. Srebrny, I. Stefanescu, Ch. Theisen, P. Van Duppen, K. Wimmer, K. Wrzosek, K. O. Zell, and M. Zielińska
RDDS Lifetime measurements of yrast states in $^{184,186,188}\text{Hg}$
 Argonne National Laboratory, Argonne, USA.
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Measurement of octupole collectivity in $^{220,222}\text{Rn}$ and $^{222,224}\text{Ra}$ using Coulomb excitation
<http://isolde.web.cern.ch/ISOLDE/>; IS475.
 ISOLDE, CERN, Geneva, Switzerland.
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High precision measurement of multipole-mixing ratios to test the newly proposed candidate for a low-lying octupole isovector state in ^{144}Nd
 Experiment Proposal 54798
 Institut Laue-Langevin, Grenoble, France.

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Determination of the $B(E3, 0^+ \rightarrow 3^-)$ strength in the octupole correlated nucleus ^{144}Ba using Coulomb excitation

submitted to the INTC (ISOLDE and Neutron Time of flight Committee, ISOLDE, CERN)

CERN-INTC-2011-039 (INTC-P-305)

ISOLDE-CERN, Geneva, Switzerland.

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Determination of the $B(E3, 0^+ \rightarrow 3^-)$ strength in the octupole correlated nuclei $^{142,144}\text{Ba}$ using Coulomb excitation submitted to the INTC (ISOLDE and Neutron Time of flight Committee, ISOLDE, CERN)

CERN-INTC-2012 (INTC-P-348)

ISOLDE-CERN, Geneva, Switzerland.

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Identification of the nature of 3^- levels in ^{96}Mo exploiting the $^{95}\text{Mo}(n, \gamma\gamma)$ reaction

Experiment Proposal No. 3-07-304

Insitut Laue-Langevin, Grenoble, France.

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Measurements of octupole collectivity in Rn and Ra nuclei using Coulomb excitation

submitted to the INTC (ISOLDE and Neutron Time of flight Committee, ISOLDE, CERN)

CERN-INTC-2012 (INTC-P-347)

ISOLDE-CERN, Geneva, Switzerland.

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A novel experimental approach to the pygmy dipole resonance in ^{96}Zr exploiting the ^{96}Y β decay

Experiment Proposal No. 69148

Institut Laue-Langevin, Grenoble, France.

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Investigation of the pygmy dipole resonance in ^{136}Xe exploiting the ^{136}In β decay

Experiment Proposal No. 69531

Institut Laue-Langevin, Grenoble, France.

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Dipole response of the r-process seeds ^{58}Ni and ^{60}Ni

Experiment Proposal 17100880

ELBE - Helmholtz Zentrum Dresden Rossendorf

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Determination of parities and average branching ratios of spin-1 levels in the r-process seeds ^{58}Ni and ^{60}Ni
 High Intensity γ -ray Source, Triangle Universities Nuclear Laboratory, Duke University, Durham, NC, USA.
- [13] **M. Scheck**, M. M. Chisti, D. T. Doherty, P. Garrett, K. Hadynska-Klek, S. F. Hicks, J. Isaak, J. M. Keatings, T. Kröll, K. R. Mashtakov, D. Mengoni, D. O'Donnell, E. E. Peters, G. Rainovski, J. Sinclair, J. F. Smith, P. Spagnoletti, W. Urban, N. Singh Bondili, J. Vanhoy, V. Werner, S. W. Yates, M. Zielinska
Exploring the transition from structure to statistical decay behavior in 92- and 94-zirconium
 Experiment Proposal No. 81086
 Insitut Laue–Langevin, Grenoble, France.
- [14] **M. Scheck**, M. Bowry, R. Chapman, D. O'Donnell, S. Nara Singh Bondili, J. F. Smith, R. Schwengner, A. Wagner, F. C. L. Crespi, D. T. Doherty, U. Friman-Gayer, R. V. F. Janssens, P. E. Garrett, R.-D. Herzberg, J. Isaak, B. Loeher, D. Savran, L. Pellegrini, M. Wiedeking, E. E. Peters, S. W. Yates, G. Rainovski, T.S. Shneidman, P.G. Thirolf, M. Venhart, and O. Wieland
Dipole response of the self-conjugate nucleus: ^{24}Mg
 Experiment Proposal 21102234-ST
 ELBE - Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany
- [15] **M. Scheck**, D. O'Donnell, R. Schwengner
Evolution of Dipole Strength in the $Z=27$ nucleus ^{59}Co
 Experiment Proposal 21102235-ST
 ELBE - Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany
- [16] **M. Scheck**, O. Agar, J. Bardak, T. Belgia, S. Nara Singh Bondili, R. Chapman, D. Doherty, L. M. Fraile, P. Garrett, A. Heusler, J. Jolie, R. Julin, D. O'Donnell, E. E. Peters, G. Rainovski, J. M. Regis, R. Schwengner, J. F. Smith, K. Wimmer, S. W. Yates
 γ -ray decay behaviour and lifetimes of 0^+ states in ^{208}Pb
 Experiment Proposal No. 88315
 Insitut Laue–Langevin, Grenoble, France.
- [17] **M. Scheck**, O. Agar, A. Algora, J. Bardak, T. Belgia, S. Nara Singh Bondili, R. Chapman, D. Doherty, L. M. Fraile, P. Garrett, J. Jolie, L. Knavla, D. O'Donnell, E. E. Peters, G. Rainovski, B. Rebeiro, J. M. Regis, R. Schwengner, J. F. Smith, K. Wimmer, S. W. Yates
Level scheme of ^{76}As the virtual, intermediate levels of the ^{76}Ge to ^{76}Se $\beta\beta$ decay
 Experiment Proposal No. 88323
 Insitut Laue–Langevin, Grenoble, France.

- [18] **M. Scheck**, D. O'Donnell, R. Schwengner, P. Adsley, S. Nara Singh Bondili, R. Chapman, F. C. L. Crespi, R.-D. Herzberg, E. E. Peters, D. Savran, J. F. Smith, P. G. Thirolf, A. Wagner, M. Wiedeking, O. Wieland, S. W. Yates
Dipole response of the self-conjugate nucleus ^{28}Si
Experiment Proposal 23102971-ST
ELBE - Helmholtz Zentrum Dresden Rossendorf, Dresden, Germany
- [19] Z. Ahmed, J. Bardek, V. Bildstein, S. Buck, G. Colombi, P. E. Garrett, K. Hadynska-Klek, G. Jaworski, D. Kalaydjieva, M. Komorowska, J. Kowalska, S. Lange, B. Lenardo, K. Mashtakov, L. Maqungo, S. Mngonyama, L. Msebi, P. J. Napiorkowski, M. Palacz, S. Pannu, E. E. Peters, I. Pietka, D. Rhodes, **M. Scheck**, A. Stolarz, K. Stoychev, S. Triambak, O. A. Tyuka, E. C. Vyfera, K. Wimmer, K. Wrzosek-Lipska, M. Zielinska
Determining the spectroscopic quadrupole moment of the 2_1^+ state in ^{136}Ba
HIL Warsaw, Warsaw, Poland

Invited oral contributions

- [1] *Low-lying dipole excitations in the vicinity of the $N=82$ shell closure*
American Chemical Society (ACS) Meeting Contemporary Frontiers in Nuclear Structure
Atlanta (GA, USA), March 26th–30th, 2006.
- [2] *The enigma of missing $E1$ strength in ^{141}Pr*
Nuclear Physics Seminar of the Dept. of Physics, University of Jyväskylä
Jyväskylä (Finland), November 12th, 2008.
- [3] *The enigma of missing $E1$ strength in ^{141}Pr*
Nuclear Physics Seminar of the Dept. of Physics, York University
York (Great Britain), March 12th, 2009.
- [4] *Strong $M1$ components in $3_i^- \rightarrow 3_1^-$ transitions in spherical nuclei: evidence for octupole-isovector excitations*
Nuclear Physics Seminar of the Dept. of Physics, University of Jyväskylä
Jyväskylä (Finland), April 28th, 2010.
- [5] *Octupole collectivity in odd- A Rn, Fr, and Ra isotopes*
Workshop on: Violations of discrete symmetries in atoms and nuclei
ECT, Trento (Italy), November 13th–15th, 2010.
- [6] *Selected aspects of the octupole degree of freedom in heavy nuclei*
Institute Seminar, Institute für Kernphysik, TU Darmstadt
Darmstadt (Germany), November 29th, 2010.
- [7] *Selected aspects of the octupole degree of freedom in heavy nuclei*
Invited talk, Dept. of Physics, Duke University
Durham, NC, USA, January 12th, 2011.
- [8] *The hunt for decays to lower-lying excited levels: The need for Background suppression*
Towards a TDR of experiments with brilliant γ -ray beams at ELI-NP
Bucharest (Romania), June 24th–25th, 2013.
- [9] *Determination of the $B(E3, 0^+ \rightarrow 3^-)$ -excitation strength in the octupole-correlated nuclei near $A \approx 224$ by the means of Coulomb excitation at REX-ISOLDE*
XXth International School on Nuclear Physics, Neutron Physics, and Applications
Varna (Bulgaria), September 16th–22nd, 2013.
- [10] *Do nuclei get pear-shaped? Coulomb excitation of ^{220}Rn and ^{224}Ra at REX-ISOLDE(CERN)*
Glasgow University, Physics Department Seminar
Glasgow (UK), October 2nd, 2013.
- [11] *Evolution of the Pygmy Dipole Resonance in fp -shell nuclei*
University of Liverpool, Nuclear Physics Group Seminar
Liverpool (UK), December 6th, 2013.

- [12] *Evolution of the Pygmy Dipole Resonance in fp-shell nuclei*
 Manchester University, Nuclear Physics Group Seminar
 Manchester (UK), December 9th, 2013.
- [13] *Do nuclei go pear-shaped? Investigation of ^{220}Rn and ^{224}Ra at REX-ISOLDE (CERN)*
 Birmingham University, Nuclear Physics Group Seminar
 Birmingham (UK), March 5th, 2014.
- [14] *Do nuclei go pear-shaped? Investigation of ^{220}Rn and ^{224}Ra at REX-ISOLDE (CERN)*
 XVth Symposium on Capture Gamma-ray Spectroscopy and related topics
 Dresden (Germany), August 24th–29th, 2014.
- [15] *Measurement of $B(E3, 0^+ \rightarrow 3^-)$ strength in strongly octupole-correlated nuclei near ^{224}Ra*
 Reflections on the atomic nucleus
 Liverpool (UK), July 22nd–25th, 2015.
- [16] *β decay as a new probe for the low-lying $E1$ strength*
 York University, Nuclear Physics Group Seminar
 York (UK), April 22nd, 2016.
- [17] *First results from the $^{95}\text{Mo}(n_{th}, \gamma)$ and $^{143}\text{Nd}(n_{th}, \gamma)$ reactions at the EXILL setup*
 ISTROS conference 2017
 Casta-Papiernicka Centre (Slovakia), May 14th–19th, 2017.
- [18] *Do nuclei go pear-shaped? Investigation of ^{220}Rn and ^{224}Ra at REX-ISOLDE (CERN)*
 Helmholtz Research Center Dresden Rossendorf, Institute for Radiation Physics
 Dresden Rossendorf (Germany), June 15th, 2017.
- [19] *Can ISOLDE investigate Pygmys?*
 ISOLDE-CERN physics group meeting
 CERN, Geneva (Switzerland), July 25th, 2017.
- [20] *Octupole correlations in nuclei: Can Moessbauer help to search for a CP-violating $E1$ moment in ^{227}Ac*
 Physik Seminar, Gutenberg Universität Mainz
 Mainz (Germany), April 17th, 2018.
- [21] *Octupole correlations in nuclei: Can Moessbauer help to search for a CP-violating $E1$ moment in ^{227}Ac*
 Physics Seminar, Departement of Physics, Duke University & Triangle University Laboratory
 Durham (NC), June 27th, 2018.
- [22] *Selected aspects of the octupole degree of freedom*
 Seminar, Bogoliubov Institute for Theoretical Physics, Joint Institute for Nuclear Research
 Dubna (Russian Federation), July 11th, 2018.

[23] *Investigation of the pygmy dipole resonance in ^{96}Zr using the β decay of ^{96}Y*

Vth topical workshop on nuclear structure and related topics
Bormio (Italy), February 4th–8th, 2020.

[24] *Investigation of the pygmy dipole resonance using β decay*
Seminar, Institute Laue Langevin, College 3
Online, February 18th, 2022.

[25] *Nuclear physics at the ILL - A short introduction*
ESS-ILL User's meeting 2022
Lund (Sweden), October 4th–7th, 2022.

[26] *Candidates for low-lying octupole isovector (mixed-symmetry) excitations*
XVIIth Symposium on Capture Gamma-ray Spectroscopy and related topics
Grenoble (France), July 17th–21st, 2023.

[27] *Can we use Mössbauer spectroscopy to search for CP violation?*
Mazurian Lakes Conference on Physics - Probing fundamental properties of
matter with rare isotopes
Piaski (Poland), September 1st–6th, 2025.

Oral contributions

- [1] *Untersuchung von E1-Zwei-Phonon-Anregungen in Kernen im Bereich magischer Zahlen*
Dynamitron-Day
Stuttgart (Germany), June 8th, 2001.
- [2] *Systematics of dipole excitations in the stable ^{134,135,136,137,138}Ba isotopes*
XIV International School on Nuclear Physics, Neutron Physics, and Nuclear Energy
Varna (Bulgaria), September 25th–30th, 2001.
- [3] *Dipole strength distribution in the well deformed nucleus ¹⁷⁶Hf and the systematics of the Scissors Mode in the even-even Hf nuclei*
Spring meeting of the DPG, NNV, BNN/SBP Nuclear Physics
Münster (Germany), March 11th–15th, 2002.
- [4] *Photonenstreuexperimente an den geraden Hf-Kernen, im Übergangsbereich von Rotator- zu γ -weichen Kernen*
WE-Heraeus-Summer school of Physics: Kleine Beschleuniger – Grosses Potential: Teilchenstrahlen in Forschung und Anwendung
Dresden (Germany), September 16th–27th, 2002.
- [5] *Systematik niedrigliegender Dipolanregungen in den stabilen Ba-Isotopen ^{134,135,136,137,138}Ba*
Spring meeting of the DPG section Hadrons and Nuclei
Tübingen (Germany), March 25th–29th, 2003.
- [6] *Low-Lying Dipole Excitations in Nuclei in the Mass Regions of the New Dynamical Symmetries*
International Conference on Nuclear Structure and Related Topics
Dubna (Russia), September 2nd–6th, 2003.
- [7] *Fragmentation of the E1 two-phonon strengths in odd-mass nuclei near the N=82 shell closure*
Spring meeting of the DPG, NNV, BNN/SBP, ÖPG Nuclear Physics
Cologne (Germany), March 8th–12th, 2004.
- [8] *The bremsstrahlung facility of the 4.3 MV Stuttgart DYNAMITRON – Probing nuclear structure using real photons –*
Nuclear Physics Seminar of the Dept. of Physics & Astronomy, University of Kentucky
Lexington (KY, USA), November 12th, 2005.
- [9] *Dipole strength distributions in stable odd-mass nuclei in the vicinity of the N=82 isotones*
American Physical Society (APS) Division of Nuclear Physics (DNP) Meeting Annual Meeting
Nashville (TN, USA), Oktober 25th–28th, 2006.

- [10] *Search for mixed-symmetry states in ^{127}I : an impasse*
Nuclear Structure Workshop, WNSL Yale University
New Haven, (CT, USA), May 31st– June 2nd, 2007.
- [11] *Experimental evidence for Pauli blocking in ^{141}Pr*
Summer school on radioactive ion beams NSCL Michigan State University
East Lansing, MI USA, August 5th–11th, 2007.
- [12] *The enigma of missing E1 strength in ^{141}Pr*
Nuclear Physics Seminar of the Dept. of Physics, Liverpool University
Liverpool (Great Britain), November 12th, 2007.
- [13] *Low-lying collective states in ^{136}Ba*
XIIIth International Symposium on: Capture Gamma-Ray Spectroscopy and
Related Topics
Cologne (Germany), August 25th–29th, 2008.
- [14] *Measurement of octupole collectivity in $^{220,222}\text{Rn}$ and $^{222,224}\text{Ra}$ using Coulomb excitation*
Workshop on: New Opportunities in the Physics Landscape, CERN
Geneva (Switzerland), May 10th–13th, 2009.
- [15] *Strong M1 components in $3_i^- \rightarrow 3_1^-$ transitions in spherical nuclei: evidence for octupole-isovector excitations*
Institute seminar, Heavy Ions Laboratory, Warsaw University
Warsaw (Poland), March 18th, 2010.
- [16] *Strong M1 components in $3_i^- \rightarrow 3_1^-$ transitions in spherical nuclei: evidence for octupole-isovector excitations*
Spring meeting of the DPG, Section: Nuclear Physics
Münster (Germany), March 23th–28th, 2011.
- [17] *Strong M1 components in $3_i^- \rightarrow 3_1^-$ transitions in spherical nuclei: evidence for octupole-isovector excitations*
ISOLDE group meeting, CERN
Geneva (Switzerland), July 26th, 2011.
- [18] *Experimental evidence for octupole-isovector excitations*
XIX International School on Nuclear Physics, Neutron Physics, and Nuclear
Energy
Varna (Bulgaria), September 23rd–28th, 2011.
- [19] *First experimental evidence for low-lying octupole-isovector excitations*
6th International Workshop on Shape-Phase Transitions and Critical Point Phenomena in Nuclei 2012
Darmstadt (Germany), February 26th–28th, 2012.
- [20] *Measurement of octupole collectivity in ^{220}Rn and ^{224}Ra using Coulomb excitation*
Miniball Workshop 2012
Cologne (Germany), March 5th–6th, 2012.

- [21] *Determination of the $B(E3, 0^+ \rightarrow 3^-)$ strength in the strongly octupole correlated nucleus ^{224}Ra using Coulomb excitation*
 Spring meeting of the DPG, Section: Nuclear Physics
 Mainz (Germany), March 18th–23rd, 2012.
- [22] *Decay pattern of the PDR in ^{60}Ni*
 SFB634 Workshop 2012
 Bonn (Germany), April 2nd–4th, 2012.
- [23] *Dipole Response of ^{60}Ni below 10 MeV: A new experimental signature for the Pygmy Dipole Resonance*
 Spring meeting of the DPG, Section: Nuclear Physics
 Dresden (Germany), March 4th–9th, 2013.
- [24] *Nuclei go pear-shaped*
 Lunchtime Seminar, School of Engineering & Computing, University of the West of Scotland
 Paisley (UK), December 16th, 2015.
- [25] *β decay as new probe for the low-energy $E1$ strength*
 Conference on Nuclear Physics – Extremes of the Nuclear Landscape
 Zakopane (Poland), August 28th– September 4th, 2016.
- [25] *Moessbauer spectroscopy on ^{227}Ac*
 New projects meeting – UK Nuclear Physics Community
 Daresbury Laboratory (UK), July 3rd, 2017.
- [26] *Selected Aspects of Nuclear Photonics*
 Workshop on Frontiers of Physical Sciences with X-ray FELs
 Imperial College London, London (UK), November 13th, 2019.

Poster contributions

- [1] *Untersuchung der Zwei-Phonon-Teilchenkopplung im sphärischen Kern ^{137}Ba*
64. Physikertagung Dresden 2000, Spring meeting of the section Hadrons and Nuclei of the DPG
Dresden (Germany), March 2000.
- [2] *The systematics of dipole modes in the even-even Hf nuclei*
XIth International Symposium on: Capture Gamma-Ray Spectroscopy and Related Topics
Pruhonice (Czech Republic), September 2nd–6th, 2002.
- [3] *Particle core coupling structures in ^{141}Pr – a textbook example –*
Gordon Research Conference: Nuclear chemistry
New London (NH, USA), June 3rd–8th, 2007.
- [4] *Pauli Blocking in ^{141}Pr*
Institute of Physics meeting 2008
Liverpool (Great Britain), April 1st–3rd, 2008.

Public Lectures

- [1] *The origin of elements - a stars' life*
University of the West of Scotland, evening lecture
Paisley (UK), October 22nd, 2014.
- [2] *Microwaves in the cosmos - How old is our universe?*
University of the West of Scotland, evening lecture
Paisley (UK), April 27th, 2017.
- [3] *Microwaves in the cosmos - How old is our universe?*
Paisley Astronomical Society
Paisley (UK), October 26th, 2018.
- [4] *The Hertzsprung Russell Diagramm*
Paisley Astronomical Society
Paisley (UK), May 10th, 2019.
- [5] *Nuclear Physics – Who would do such a thing?*
Strathclyde University Physics Society
Glasgow (UK), November 5th, 2024.
- [6] *Nuclear Physics – Who would do such a thing?*
Scottish Nationalist Party - Section Kelso and Jedburgh
Jedburgh (UK), July 18th, 2024.

Diploma Thesis

Untersuchung von 2-Phonon-Loch-Anregungen im Kern ^{137}Ba
(*Investigation of 2-phonon-hole excitations in the nucleus ^{137}Ba*)
Stuttgart University, 2000.

Ph. D. Thesis

Fragmentierung niedrigliegender Dipolmoden in ungeraden Kernen am $N=82$
Schalenabschluss
(*Fragmentation of low-lying dipole modes in odd-mass nuclei near the $N=82$*
shell closure)
Stuttgart University, 2005.