

M. Kowalska - Publication list, Oct 2019

92 peer-reviewed publications (including 87 articles and 3 reviews), including (since 2012) 2 papers in Nature, 13 in Phys. Rev. Lett. and 5 in Phys. Lett. B. Cited over 2800 times, including 2520 without self-citation, Hirsch index 30 (Web of Science). Full publication list at <https://www.unige.ch/dpnc/en/groups/magdalenakowalska/publications/>

92. R. D. Harding, S. Pallada, J. Croese, M. Baranowski, M. L. Bissell, L. Cerato, K. M. Dziubinska-Kuehn, W. Gins, F. P. Gustafsson, L. Hemmingsen, A. Javaji, R. B. Jolivet, A. Kanellakopoulos, B. Karg, M. Kempka, V. Kocman, M. Kozak, K. Kulesz, M. Madurga Flores, R. Pietrzyk, G. Neyens, J. Plavec, M. Pomorski, A. Skrzypczak, P. Wagenknecht, J. Wolak, F. Wienholtz, Z. Xu, D. Zakoucky, and **M. Kowalska**, to be submitted to Phys. Rev. X (2019) **Magnetic moments of short-lived nuclei with part-per-million precision: Paving the way for applications of β -detected NMR in chemistry and biology**, <https://cds.cern.ch/record/2689032>

91. V. Gins, R. D. Harding, M. Baranowski, M. L. Bissell, R. F. Garcia Ruiz, **M. Kowalska**, G. Neyens, S. Pallada, N. Severijns, Ph. Velten, F. Wienholtz, Z. Y. Xu, X. F. Yang, D. Zakoucky, **A new beamline for laser spin-polarization at ISOLDE**, Nucl. Instr. and Meth. A 925, 24 (2019)

90. W.J. Huang, D. Atanasov, G. Audi, K. Blaum, R.B. Cakirli, A. Herlert, **M. Kowalska**, S. Kreim, Yu.A. Litvinov, D. Lunney, V. Manea, M. Mougeot, M. Rosenbusch, L. Schweikhard, A. Welker, F. Wienholtz, R.N. Wolf, and K. Zuber, Eur. Phys. J. A 55, 96 (2019), **Evaluation of high-precision atomic masses of $A \sim 50$ –80 and rare-earth nuclides measured with ISOLTRAP**

89. W. Płaczek, A. Abramov, S.E. Alden, R. Alemany Fernandez, P.S. Antsiferov, A. Apyan, H. Bartosik, E.G. Bessonov, N. Biancacci, J. Bieroń, A. Bogacz, A. Bosco, R. Bruce, D. Budker, K. Cassou, F. Castelli, I. Chaikovska, C. Curatolo, P. Czodrowski, A. Derevianko, K. Dupraz, Y. Dutheil, K. Dzierżęga, V. Fedosseev, N. Fuster Martinez, S.M. Gibson, B. Goddard, A. Gorzawski, S. Hirlander, J. Jowett, R. Kersevan, **M. Kowalska**, M.W. Krasny, F. Kroeger, M. Lamont, T. Lefevre, D. Manglunki, B. Marsh, A. Martens, J. Molson, D. Nutarelli, L.J. Nevay, A. Petrenko, V. Petrillo, S. Radaelli, S. Pustelny, S. Rochester, M. Sapinski, M. Schaumann, L. Serafini, V.P. Shevelko, T. Stoeckler, A. Surzhikov, I. Tolstikhina, F. Velotti, G. Weber, Y.K. Wu, C. Yin-Vallgren, M. Zanetti, F. Zimmermann, M.S. Zolotarev, F. Zomer, Acta Phys. Pol. B 6, 1191 (2019), **Gamma factory at CERN – novel research tools made of light**

88. M. Hammen, W. Nörtershäuser, D. L. Balabanski, M. L. Bissell, K. Blaum, I. Budinčević, B. Cheal, K. T. Flanagan, N. Frömmgen, G. Georgiev, Ch. Geppert, **M. Kowalska**, K. Kreim, A. Krieger, W. Nazarewicz, R. Neugart, G. Neyens, J. Papuga, P.-G. Reinhard, M. M. Rajabali, S. Schmidt, and D. T. Yordanov, Phys. Rev. Lett. 121, 102501 (2018), **From Calcium to Cadmium: Testing the Pairing Functional through Charge Radii Measurements of 100 – 130Cd**

87. J.G. Cubiss, A.E. Barzakh, M. D. Seliverstov, A.N. Andreyev, B. Andel, S. Antalic, P. Ascher, D. Atanasov, D. Beck, J. Bieroń, K. Blaum, Ch. Borgmann, M. Breitenfeldt, L. Capponi, T.E. Cocolios, T. Day Goodacre, X. Derkx, H. De Witte, J. Elseviers, D.V. Fedorov, V. N. Fedosseev, S. Fritzsche, L.P. Gaffney, S. George, L. Ghys, F.P. Heßberger, M. Huyse, N. Imai, Z. Kalaninová, D. Kisler, U. Köster, **M. Kowalska**, S. Kreim, J. F. W. Lane, V. Liberati, D. Lunney, K. M. Lynch, V. Manea, B. A. Marsh, S. Mitsuoka, P. L. Molkanov, Y. Nagame, D. Neidherr, K. Nishio, S. Ota, D. Pauwels, L. Popescu, D. Radulov, E. Rapisarda, J. P. Revill, M. Rosenbusch, R.E. Rossel, S. Rothe, K. Sandhu, L. Schweikhard, S. Sels, V.L. Truesdale, C. Van Beveren, P. Van den Bergh, Y. Wakabayashi, P. Van Duppen, K. D. A. Wendt, F. Wienholtz, B. W. Whitmore, G. L. Wilson, R.N. Wolf, K. Zuber, Phys. Rev. C 97, 054327 (2018), **Charge radii and electromagnetic moments of 195 – 211At**

86. X. F. Yang, Y. Tsunoda, C. Babcock, J. Billowes, M. L. Bissell, K. Blaum, B. Cheal, K. T. Flanagan, R. F. Garcia Ruiz, W. Gins, C. Gorges, L. K. Grob, H. Heylen, S. Kaufmann, **M. Kowalska**, J. Krämer, S. Malbrunot-Ettenauer, R. Neugart, G. Neyens, W. Nörtershäuser, T. Otsuka, J. Papuga, R. Sánchez, C. Wraith, L. Xie, and D. T. Yordanov, Phys. Rev. C 97, 044324 (2018), **Investigating the large deformation of the $5/2^+$ isomeric state in 73Zn : An indicator for triaxiality**

85. **M. Kowalska**, P. Aschenbrenner, M. Baranowski, M. L. Bissell, W. Gins, R. D. Harding, H. Heylen, G. Neyens, S. Pallada, N. Severijns, Ph. Velten, M. Walczak, F. Wienholtz, Z. Y. Xu, X. F. Yang, D. Zakoucky, J. Phys G: Nuclear and Particle Physics 44, 084005 (2017), **New laser polarization line at the ISOLDE facility**,
84. A. Jancso, J. G. Correia, A. Gottberg, J. Schell, M. Stachura, D. Szunyogh, S. Pallada, D.C. Lupascu, **M. Kowalska**, L. Hemmingsen, J. Phys G: Nuclear and Particle Physics 44, 064003 (2017), **TDPAC and beta-NMR applications in chemistry and biochemistry**
83. A. de Roubin, D. Atanasov, K. Blaum, S. George, F. Herfurth, D. Kisler, **M. Kowalska**, S. Kreim, D. Lunney, V. Manea, E. Minaya Ramirez, M. Mougeot, D. Neidherr, M. Rosenbusch, L. Schweikhard, A. Welker, F. Wienholtz, R. N. Wolf and K. Zuber, Phys. Rev. C 96, 014310 (2017), **Nuclear deformation in the A = 100 region: Comparison between new masses and mean-field predictions**
82. V. Manea, P. Ascher, D. Atanasov, A. E. Barzakh, D. Beck, K. Blaum, Ch. Borgmann, M. Breitenfeldt, R. B. Cakirli, T. E. Cocolios, T. Day Goodacre, D. V. Fedorov, V. N. Fedosseev, S. George, F. Herfurth, **M. Kowalska**, S. Kreim, Yu. A. Litvinov, D. Lunney, B. Marsh, D. Neidherr, M. Rosenbusch, R. E. Rossel, S. Rothe, L. Schweikhard, F. Wienholtz, R. N. Wolf and K. Zuber, Phys. Rev. C 95, 054322 (2017), **Penning-trap mass spectrometry and mean-field study of nuclear shape coexistence in the neutron-deficient lead region**
81. D. Atanasov, D. Beck, K. Blaum, Ch. Borgmann, R. B. Cakirli, T. Eronen, S. George, F. Herfurth, A. Herlert, **M. Kowalska**, S. Kreim, Yu. A. Litvinov, D. Lunney, V. Manea, D. Neidherr, M. Rosenbusch, L. Schweikhard, F. Wienholtz, R. N. Wolf and K. Zuber, J. Phys. G 44, 064008 (2017), **Precision mass measurements of cesium isotopes—new entries in the ISOLTRAP chronicles**
80. R. F. Garcia Ruiz, C Gorges, M Bissell, K Blaum, W Gins, H Heylen, K Koenig, S Kaufmann, **M Kowalska**, J Krämer, P Lievens, S Malbrunot-Ettenauer, R Neugart, G Neyens, W Nörtershäuser, D T Yordanov, and X F Yang, Journal of Physics G: Nuclear and Particle Physics 44 (2017), **Development of a sensitive setup for laser spectroscopy studies of very exotic calcium isotopes**
79. Yordanov, M.L. Bissell, K. Blaum, M De Rydt, Ch Geppert, J Krämer, K Kreim, **M Kowalska**, A Krieger, P Lievens, R Neugart, G Neyens, W Nörtershäuser, L V Rodríguez, R Sánchez, P Vingerhoets, Journal of Physics G: Nuclear and Particle Physics 44 (2017), **Spin and magnetic moment of ^{23}Mg**
78. C. Wraith, X.F. Yang, L. Xie, C. Babcock, J. Bieron, J. Billowes, M.L. Bissell, K. Blaum, B. Cheal, L. Filippin, R.F. Garcia Ruiz, W. Gins, L.K. Grob, G. Gaigalas, M. Godefroid, C. Gorges, H. Heylen, M. Honma, P. Jönsson, S. Kaufmann, **M. Kowalska**, J. Krämer, Malbrunot-Ettenauer, R. Neugart, G. Neyens, W. Nörtershäuser, F. Nowacki, T. Otsuka, J. Papuga, R. Sánchez, Y. Tsunoda, D.T. Yordanov., Physics Letters B 771 (2017) 385, **Evolution of nuclear structure in neutron-rich odd-Zn isotopes and isomers**
77. **M. Kowalska**, Eur. Phys. J. Plus 131 (2016) 294, **Global properties of atomic nuclei: Masses, radii and modern methods to measure them.**
76. R.F. Garcia Ruiz, M.L. Bissell, K. Blaum, A. Ekström, N. Frömmgen, G. Hagen, M. Hammen, K. Hebeler, J. D. Holt, G. R. Jansen, **M. Kowalska**, K. Kreim, W. Nazarewicz, R. Neugart, G. Neyens, W. Nörtershäuser, T. Papenbrock, J. Papuga, A. Schwenk, J. Simonis, K. A. Wendt, D. T. Yordanov, Nature Physics 12, 594, (2016), **Unexpectedly large charge radii of neutron-rich calcium isotopes**
75. X. F. Yang, C. Wraith, L. Xie, C. Babcock, J. Billowes, M. L. Bissell, K. Blaum, B. Cheal, K. T. Flanagan, R. F. Garcia Ruiz, W. Gins, C. Gorges, L. K. Grob, H. Heylen, S. Kaufmann, **M. Kowalska**, J. Kraemer, S. Malbrunot-Ettenauer, R. Neugart, G. Neyens, W. Nörtershäuser, J. Papuga, R. Sanchez, D. T. Yordanov, Phys. Rev. Lett. 116 (2016) 182502, **Isomer Shift and Magnetic Moment of the Long-Lived $1/2^+$ Isomer in ^{49}Zn Signature of Shape Coexistence near ^{78}Ni**
74. C. Babcock, H. Heylen, M.L. Bissell, K. Blaum, P. Campbell, B. Cheal, D. Fedorov, R.F. Garcia Ruiz, W. Geithner, W. Gins, T. Day Goodacre, L.K. Grob, **M. Kowalska**, S.M. Lenzi, B. Maass, S. Malbrunot-Ettenauer, B. Marsh, R. Neugart, G. Neyens, W. Nörtershäuser, T. Otsuka, R. Rossel, S. Rothe, R. Sánchez, Y. Tsunoda, C. Wraith, L. Xie, X.F. Yang, Physics Letters B 760 (2016) 387–392, **Quadrupole moments of odd-A $^{53-63}\text{Mn}$: Onset of collectivity towards N = 40**

73. D. T. Yordanov, D. L. Balabanski, M. L. Bissell, K. Blaum, I. Budincevic, B. Cheal, K. Flanagan, N. Frommgen, G. Georgiev, Ch. Geppert, M. Hammen, **M. Kowalska**, K. Kreim, A. Krieger, J. Meng, R. Neugart, G. Neyens, W. Nortershauser, M. M. Rajabali, J. Papuga, S. Schmidt, P. W. Zhao, Phys. Rev. Lett. 116 (2016) 032501, **Simple Nuclear Structure in 111–129 Cd from Atomic Isomer Shifts**
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71. M. L. Bissell, T. Carette, K. T. Flanagan, P. Vingerhoets, J. Billowes, K. Blaum, B. Cheal, S. Fritzsche, M. Godefroid, **M. Kowalska**, J. Kramer, R. Neugart, G. Neyens, W. Nortershauser, D. T. Yordanov, Phys. Rev. C 93 (2016) 064318, **Cu charge radii reveal a weak sub-shell effect at N=40**
70. C. Babcock, H. Heylen, M.L. Bissell, K. Blaum, P. Campbell, B. Cheal, D. Fedorov, R.F. Garcia Ruiz, W. Geithner, W. Gins, T. Day Goodacre, L.K. Grob, **M. Kowalska**, S.M. Lenzi, B. Maass, S. Malbrunot-Ettenauer, B. Marsh, R. Neugart, G. Neyens, W. Nörtershäuser, T. Otsuka, R. Rossel, S. Rothe, R. Sánchez, Y. Tsunoda, C. Wraith, L. Xie, X.F. Yang, Physics Letters B 760 (2016) 387–392, **Quadrupole moments of odd-A 53–63Mn: Onset of collectivity towards N = 40**
69. D. Atanasov, P. Ascher, K. Blaum, R. B. Cakirli, T. E. Cocolios, S. George, S. Goriely, F. Herfurth, H.-T. Janka, O. Just, **M. Kowalska**, S. Kreim, D. Kisler, Yu. A. Litvinov, D. Lunney, V. Manea, D. Neidherr, M. Rosenbusch, L. Schweikhard, A. Welker, F. Wienholtz, R.N. Wolf, and K. Zuber, Phys. Rev. Lett. 115, 232501 (2015), **Precision Mass Measurements of 129–131Cd and Their Impact on Stellar Nucleosynthesis via the Rapid Neutron Capture Process**
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65. C. Babcock, H. Heylen, J. Billowes, M.L. Bissell, K. Blaum, P. Campbell, B. Cheal, R.F. Garcia Ruiz, C. Geppert, W. Gins, **M. Kowalska**, K. Kreim, S.M. Lenzi, I.D. Moore, R. Neugart, G. Neyens, W. Nortershauser, J. Papuga, D.T. Yordanov, Physics Letters B 750 (2015) 176–180, **Evidence for Increased neutron and proton excitations between 51 – 63Mn**
64. W. Nörtershäuser, Ch. Geppert, A. Krieger, K. Pachucki, M. Puchalski, K. Blaum, M. L. Bissell, N. Frömmgen, M. Hammen, **M. Kowalska**, Phys. Rev. Lett. 115 (2015) 033002, **Precision Test of Many-Body QED in the Be+ 2p Fine Structure Doublet Using Short-Lived Isotopes**
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61. Ch. Böhm, Ch. Borgmann, G. Audi, D. Beck, K. Blaum, M. Breitenfeldt, R. B. Cakirli, T. E. Cocolios, S. Eliseev, S. George, F. Herfurth, A. Herlert, **M. Kowalska**, S. Kreim, D. Lunney, V. Manea, E. Minaya Ramirez, S. Naimi, D. Neidherr, M. Rosenbusch, L. Schweikhard, J. Stanja, M. Wang, R. N. Wolf, K. Zuber, *Phys. Rev. C* 90, 044307 (2014), **Evolution of nuclear ground-state properties of neutron-deficient isotopes around $Z=82$ from precision mass measurements**
60. J. Papuga, M. L. Bissell, K. Kreim, C. Barbieri, K. Blaum, M. De Rydt, T. Duguet, R. F. Garcia Ruiz, H. Heylen, **M. Kowalska**, R. Neugart, G. Neyens, W. Nortershauser, T. Otsuka, M. M. Rajabali, R. Sanchez, Y. Utsuno, and D. T. Yordanov, *Phys. Rev. C* 90 (2014) 034321, **Shell structure of potassium isotopes deduced from their magnetic moments**
59. Kreim K., Bissell M. L., Papuga J., K. Blaum, De Rydt M., Garcia Ruiz R., Goriely S., Heylen H., **Kowalska M.**, Neugart R., Neyens G., Noertershauser W., Rajabali M.M., Sanchez Alarcon R., Stroke H. H., Yordanov D., *Physics Letters B* 731 (2014) 97-102, **Nuclear charge radii of potassium isotopes beyond $N = 28$**
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56. F. Wienholtz, D. Beck, K. Blaum, Ch. Borgmann, M. Breitenfeldt, R. B. Cakirli, S. George, F. Herfurth, J. D. Holt, **M. Kowalska**, S. Kreim, D. Lunney, V. Manea, J. Menéndez, D. Neidherr, M. Rosenbusch, L. Schweikhard, A. Schwenk, J. Simonis, J. Stanja, R. N. Wolf, K. Zuber, *Nature* 498, 346 (2013), **Masses of exotic calcium isotopes pin down nuclear forces**
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