

Complete list of publications.

- 2024 **Unveiling the microscopic structure of semi-magic nuclei: high-resolution laser spectroscopy meets state of the art ab-initio and density functional theory in the heavy region**, In preparation, to be submitted to Nature Physics.
L.V. Rodríguez, L. Renth, Dimiter L. Balabanski, Jacek Bierón, Mark L. Bissell, Klaus Blaum, Bradley Cheal, Jörgen Ekman, Gediminas Gaigalas, Ronald F. Garcia Ruiz, Georgi Georgiev, Wouter Gins, Michel R. Godefroid, Christian Gorges, Zoltán Harman, Hanne Heylen, Per Jönsson, Anastasios Kanellakopoulos, Simon Kaufmann, Christoph H. Keitel, Varvara Lagaki, Simon Lechner, Bernhard Maaß, Stephan Malbrunot-Ettenauer, Witold Nazarewicz, Rainer Neugart, Gerda Neyens, W. Nörtershäuser, Natalia S. Oreshkina, Asimina Papoulia, Pekka Pyykkö, Paul-Gerhard Reinhard, Stefan Sailer, Rodolfo Sánchez, Sacha Schiffmann, Stefan Schmidt, Laura Wehner, Calvin Wraith, Liang Xie, Zhengyu Xu, Xiaofei Yang and D. T. Yordanov
- 2024 **Collinear laser spectroscopy triggers the first ab-initio description of electromagnetic moments in lead**, In preparation, to be submitted to Phys. Rev. Lett..
L.V. Rodríguez, Dimiter L. Balabanski, Jacek Bierón, Mark L. Bissell, Klaus Blaum, Bradley Cheal, Jörgen Ekman, Gediminas Gaigalas, Ronald F. Garcia Ruiz, Georgi Georgiev, Wouter Gins, Michel R. Godefroid, Christian Gorges, Zoltán Harman, Hanne Heylen, Per Jönsson, Anastasios Kanellakopoulos, Simon Kaufmann, Christoph H. Keitel, Varvara Lagaki, Simon Lechner, Bernhard Maaß, Stephan Malbrunot-Ettenauer, Witold Nazarewicz, Rainer Neugart, Gerda Neyens, W. Nörtershäuser, Natalia S. Oreshkina, Asimina Papoulia, Pekka Pyykkö, Paul-Gerhard Reinhard, Stefan Sailer, Rodolfo Sánchez, Sacha Schiffmann, Stefan Schmidt, Laura Wehner, Calvin Wraith, Liang Xie, Zhengyu Xu, Xiaofei Yang and D. T. Yordanov
- 2024 **Nuclear moments and charge radii in the tin region**, In preparation, to be submitted to Phys. Rev. C.
T. Lellinger, L.V. Rodríguez, Dimiter L. Balabanski, Jacek Bierón, Mark L. Bissell, Klaus Blaum, Bradley Cheal, Jörgen Ekman, Gediminas Gaigalas, Ronald F. Garcia Ruiz, Georgi Georgiev, Wouter Gins, Michel R. Godefroid, Christian Gorges, Zoltán Harman, Hanne Heylen, Per Jönsson, Anastasios Kanellakopoulos, Simon Kaufmann, Christoph H. Keitel, Varvara Lagaki, Simon Lechner, Bernhard Maaß, Stephan Malbrunot-Ettenauer, Witold Nazarewicz, Rainer Neugart, Gerda Neyens, W. Nörtershäuser, Natalia S. Oreshkina, Asimina Papoulia, Pekka Pyykkö, Paul-Gerhard Reinhard, Stefan Sailer, Rodolfo Sánchez, Sacha Schiffmann, Stefan Schmidt, Laura Wehner, Calvin Wraith, Liang Xie, Zhengyu Xu, Xiaofei Yang and D. T. Yordanov

- 2023 **Nuclear Charge Radius of ^{26m}Al and Its Implication for Vud in the Quark Mixing Matrix**, Phys. Rev. Lett., 131(22), 222502.
*P. Plattner, E. Wood, L. Al Ayoubi, O. Beliuskina, M. L. Bissell, K. Blaum, P. Campbell, B. Cheal, R. P. de Groot, C. S. Devlin, T. Eronen, L. Filippin, R. F. Garcia Ruiz, Z. Ge, S. Geldhof, W. Gins, M. Godefroid, H. Heylen, M. Hukkanen, P. Imgram, A. Jaries, A. Jokinen, A. Kanellakopoulos, A. Kankainen, S. Kaufmann, K. König, A. Koszorús, S. Kujanpää, S. Lechner, S. Malbrunot-Ettenauer, P. Müller, R. Mathieson, I. Moore, W. Nörtershäuser, D. Nesterenko, R. Neugart, G. Neyens, A. Ortiz-Cortés, H. Penttilä, I. Pohjalainen, A. Raggio, M. Reponen, S. Rinta-Anttila, **L.V. Rodríguez**, J. Romero R. Sanchez, F. Sommer, M. Stryczyk, V. Virtanen, L. Xie, Z. Y. Xu, X. F. Yang, and D. T. Yordanov*
- 2023 **Laser spectroscopy of neutron deficient thallium isotopes**, CERN-INTC-2023-059 / INTC-P-673.
*B. Cheal, **L.V. Rodríguez**, S. Bai, K. Blaum, P. Campbell, K. Chrysalidis, R. F. Garcia Ruiz, P. F. Giesel, R. Heinke, P. Imgram, K. König, D. Lange, T. Lellinger, D. Lunney, K.M. Lynch, B.A. Marsh, P. Müller, W. Nazarewicz, R. Neugart, G. Neyens, L. Nies, W. Nörtershäuser, R. D. Page, P. Plattner, P. G. Reinhard, L. Renth, S. Rothe, R. Sanchez, Ch. Schweiger, L. Schweikhard, S. Stegemann, T. Stora, S. M. Wang, X. F. Yang, D. T. Yordanov*
- 2023 **Electromagnetic moments of the antimony isotopes $^{112,133}\text{Sb}$** , Phys. Lett. B, 847, 138278 .
*S. Lechner, T. Miyagi, Z.Y. Xu, M.L. Bissell, K. Blaum, B. Cheal, C.S. Devlin, R.F. Garcia Ruiz, J.S.M. Ginges, H. Heylen, J.D. Holt, P. Imgram, A. Kanellakopoulos, Á. Koszorús, S. Malbrunot-Ettenauer, R. Neugart, G. Neyens, W. Nörtershäuser, P. Plattner, **L.V. Rodríguez**, G. Sanamyan, S.R. Stroberg, Y. Utsuno, X.F. Yang, D.T. Yordanov*
- 2022 **High-resolution laser spectroscopy of thallium isotopes**, CERN-INTC-2022-030 / INTC-P-636.
L.V. Rodríguez, S. Bai, M. L. Bissell, K. Blaum, B. Cheal, R. F. Garcia Ruiz, P. Imgram, K. König, T. Lellinger, S. Malbrunot-Ettenauer, P. Müller, R. Neugart, G. Neyens, W. Nörtershäuser, P. Plattner, L. Renth, R. Sánchez, F. Sommer, X. Yang, D. T. Yordanov
- 2022 **Electromagnetic moments of scandium isotopes and $N = 28$ isotones in the distinctive $0f_{7/2}$ orbit**, Phys. Lett. B 829 137064 (2022).
*S. W. Bai, Á. Koszorús, B. S. Hu, X. F. Yang, J. Billowes, C. L. Binnersley, M. L. Bissell, K. Blaum, P. Campbell, B. Cheal, T. E. Cocolios, R. P. de Groot, C. S. Devlin, K.T. Flanagan, R. F. Garcia Ruiz, H. Heylen, J. D. Holt, A. Kanellakopoulos, J. Krämer, V. Lagaki, B. Maaß, S. Malbrunot-Ettenauer, T. Miyagi, R. Neugart, G. Neyens, W. Nörtershäuser, **L. V. Rodríguez**, F. Sommer, A. R. Vernon, S. J. Wang, S. G. Wilkins, Z. Y. Xu, and C. X. Yuan*
- 2022 **Nuclear Charge Radii of the Nickel Isotopes $^{58-68,70}\text{Ni}$** , Phys. Rev. Lett. 128, 022502 (2022).
*S. Malbrunot-Ettenauer, S. Kaufmann, S. Bacca, C. Barbieri, J. Billowes, M.L. Bissell, K. Blaum, B. Cheal, T. Duguet, R.F. Garcia Ruiz, W. Gins, C. Gorges, G. Hagen, H. Heylen, J.D. Holt, G.R. Jansen, A. Kanellakopoulos, M. Kortelainen, T. Miyagi, P. Navrátil, W. Nazarewicz, R. Neugart, G. Neyens, W. Nörtershäuser, S.J. Novario, T. Papenbrock, T. Ratajczyk, P.-G. Reinhard, **L. V. Rodríguez**, R. Sánchez, S. Sailer, A. Schwenk, J. Simonis, V. Somà, S.R. Stroberg, L. Wehner, C. Wraith, L. Xie, Z.Y. Xu, X.F. Yang, and D.T. Yordanov.*

- 2021 **High-resolution laser spectroscopy of “magic” lead isotopes**, CERN-INTC-2021-035 / INTC-P-606.
L.V. Rodríguez, M. Athanasakis, M. L. Bissell, K. Blaum, B. Cheal, R. F. Garcia Ruiz, S. Geldhof, T. Lellinger, S. Malbrunot-Ettenauer, N. Minkov, W. Nazarewicz, R. Neugart, G. Neyens, W. Nörtershäuser, P-G Reinhard, R. Sáchez, X. Yang, D. T. Yordanov
- 2021 **Probing the single-particle behavior above ^{132}Sn via electromagnetic moments of ^{133}Sb , ^{134}Sb and $N = 82$ isotones**, Phys. Rev. C 104, 014302 (2021).
S. Lechner, Z. Y. Xu, M. L. Bissell, K. Blaum, B. Cheal, G. De Gregorio, C. S. Devlin, R. F. Garcia Ruiz, A. Gargano, H. Heylen, P. Imgram, A. Kanellakopoulos, Á. Koszorús, S. Malbrunot-Ettenauer, R. Neugart, G. Neyens, W. Nörtershäuser, P. Plattner, L. V. Rodríguez, X. F. Yang, and D. T. Yordanov
- 2021 **High-resolution laser spectroscopy of $^{27-32}\text{Al}$** , Phys. Rev. C 103, 014318 (2021).
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- 2020 **Laser spectroscopy of neutron-rich tellurium isotopes**, CERN-INTC-2020-036 / INTC-P-561.
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- 2020 **Nuclear moments of germanium isotopes near $N = 40$** , Phys. Rev. C 102, 054331 (2020).
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- 2020 **Doubly-magic character of ^{132}Sn studied via electromagnetic moments of ^{133}Sn** , Phys. Rev. C 102, 051301(R) (2020).
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- 2020 **Instrumentation for high-resolution laser spectroscopy at the ALTO radioactive-beam facility**, Journal of Instrumentation, 15, P06004 (2020).
D.T. Yordanov, D. Atanasov, M.L. Bissell, S. Franchoo, G. Georgiev, A. Kanellakopoulos, S. Lechner, E. Minaya Ramirez, D. Nichita, L.V. Rodríguez and A. Said

- 2020 **Structural trends in atomic nuclei from laser spectroscopy of tin**, Commun Phys 3, 107 (2020).
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- 2020 **Charge Radius of the Short-Lived ⁶⁸Ni and Correlation with the Dipole Polarizability**, Phys. Rev. Lett. 124, 132502 (2020).
S. Kaufmann, J. Simonis, S. Bacca, J. Billowes, M.L. Bissell, K. Blaum, B. Cheal, R.F. Garcia Ruiz, W. Gins, C. Gorges, G. Hagen, H. Heylen, A. Kanellakopoulos, S. Malbrunot-Ettenauer, M. Miorelli, R. Neugart, G. Neyens, W. Nörtershäuser, R. Sánchez, S. Sailer, A. Schwenk, T. Ratajczyk, L.V. Rodríguez, L. Wehner, C. Wraith, L. Xie, Z.Y. Xu, X. F. Yang, and D.T. Yordanov
- 2019 **Laser Spectroscopy of Neutron-Rich Tin Isotopes: A Discontinuity in Charge Radii across the N = 82 Shell Closure**, Phys. Rev. Lett. 122, 192502 (2019), Featured in Physics. Editor's Suggestion.
C. Gorges, L. V. Rodríguez, M. L. Bissell, K. Blaum, J.-P. Ebran, R. F. Garcia Ruiz, W. Gins, H. Heylen, S. Kaufmann, M. Kowalska, S. Malbrunot-Ettenauer, W. Nazarewicz, R. Neugart, G. Neyens, W. Nörtershäuser, P.-G. Reinhard, R. Sánchez, S. Schmidt, Z. Y. Xu, D. T. Yordanov