

Univ.-Prof. Dr. K.-L. Kratz  
CURRICULUM VITAE

Office Address:

Institut für Kernchemie Johannes Gutenberg-Universität  
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D-65128 Mainz  
Tel. +49 6131 3925892

Personal Data:

Birthdate	April 23, 1941
Birthplace	Jena / Thüringen, Germany
Nationality	German
Marital Status	Married

Educational Record:

Abitur	Gymnasium Mainz, 1960
Vordiplom Chemie	Univ. Mainz, 1964
Diplom-Hauptexamen	Univ. Mainz, 1966
Diploma Thesis	
Nuclear Chemistry	Univ. Mainz, 1967
Dissertation	
Nuclear Chemistry	Univ. Mainz, 1972
Habilitation	
Nuclear Chemistry	Univ. Mainz, 1979

Military Service:

Grundwehrdienst	1960 – 1962
Leutnant	1962
Major (Res.)	1973

Positions:

Full Professor (Universitätsprofessor)	1979 – present
Assistant Professor	1974 – 1979
Postdoctoral Teaching and Research Assistant	1972 – 1973
Teaching and Research Assistant	1970 – 1972

Honors and Fellowships:

Scholarship Studienstiftung des deutschen Volkes	1966 – 1970
Johannes Gutenberg- Universität Award	1972
ACS Award	
Nuclear Chemistry	1979

Societies:

Verein Deutscher Studenten Asciburgia zu Mainz im B.d.St.  
Deutsche Physikalische Gesellschaft

Astronomische Gesellschaft  
 Gesellschaft Deutscher Chemiker  
 American Chemical Society

Current Research Activities:

Nuclear data (experimental and theoretical) for application in nuclear-structure physics,  
 astrophysics and nuclear technology  
 Nuclear chemistry for environmental analytics

**TP 2: Kernstruktur und explosive Nukleosynthese (K.-L. Kratz)**

F.-K. Thielemann, K.-L. Kratz, B. Pfeiffer, T. Rauscher, L. van Wormer, M.C. Wiescher  
 Astrophysics and Nuclei far from Stability  
 Nucl. Phys. A570, 329c (1994)

G. Lhersonneau, B. Pfeiffer, K.-L. Kratz, T. Enqvist, P.P. Jauho, A. Lokinen, J. Kantele, M. Leino,  
 J.M. Parmonen, H. Penttilä, J. Äystö, ISOLDE Collaboration  
 Evolution of Deformation in the Neutron-Rich Zr Region from Excited Intruder State to the Ground  
 State  
 Phys. Rev. C49, 1379 (1994)

K.-L. Kratz, F.-K. Thielemann  
 Fitting r-Process Abundances: A Test of Nuclear-Physics Models far from Stability  
 Proc. 8th Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics, Fribourg,  
 Switzerland, Sept. 1993  
 World Scientific, ISBN 981-02-1636-X, 724 (1994)

A. Wöhr, W. Böhmer, S. Schoedder, K.-L. Kratz, H. Huber, E. Krausmann, H. Krauss, H.  
 Oberhummer, T. Rauscher, F.-K. Thielemann  
 Direct and Resonant Neutron-Capture Cross Sections for Neutron-Rich Nuclei Around  $N = 28$   
 Proc. 8th Int. Symp. on Capture Gamma-Ray Spectroscopy and Related Topics, Fribourg,  
 Switzerland, Sept. 1993  
 World Scientific, ISBN 981-02-1636-X, 762 (1994)

W. Balogh, R. Bieber, H. Oberhummer, T. Rauscher, K.-L. Kratz, P. Mohr, G. Staudt, M.M.  
 Sharma  
 Direct Capture at Low Energies  
 Proc. European Workshop on Heavy Element Nucleosynthesis  
 Budapest, Hungary, March 1994  
 Rep. MTA Atomki, 67 (1994)

B. Pfeiffer, K.-L. Kratz, P. Möller, J. Dobaczweski, F.-K. Thielemann  
 Shell and Neutron-Skin Effects in r-Process Isotopes  
 Proc. 4th Int. Conf. on Applications of Nuclear Techniques, Neutrons and their Applications  
 Crete, Greece, June 1994  
 Proc. SPIE 2339, 72 (1994)

O. Sorlin, R. Anne, L. Axelsson, D. Bazin, W. Böhmer, V. Borrel, D. Guillemaud-Mueller, Y. Jading, H. Keller, K.-L. Kratz, M. Lewitowicz, S.M. Lukyanov, T. Mehren, A.C. Mueller, Yu. E. Penionzhkevich, B. Pfeiffer, F. Pougheon, M.G. Saint-Laurent, V.S. Salamatina, S. Schoedder, A. Wöhr

Beta-Decay Studies of Nuclei far from Stability near  $N = 28$   
Nouvelles du GANIL N° 51, 3 (1994)

K.-L. Kratz, A.C. Müller, F.K. Thielemann  
'Fun' durch Supernovaexplosion und Kernphysik mit LISE  
Physikalische Blätter 51, 183 (1995)

K.W. Scheller, J. Görres, S. Vouzoukas, M. Wiescher, B. Pfeiffer, K.-L. Kratz, D.J. Morrissey, B.M. Sherril, M. Steiner, M. Hellström, J.A. Winger  
Study of the Beta-Delayed Neutron Decay of  $^{17}\text{C}$  and  $^{18}\text{C}$   
Nucl. Phys. A582, 109 (1995)

O. Sorlin, R. Anne, L. Axelsson, D. Bazin, W. Böhmer, V. Borrel, D. Guillemaud-Müller, Y. Jading, H. Keller, K.-L. Kratz, M. Lewitowicz, S.M. Lukyanov, T. Mehren, A.C. Mueller, Yu. E. Penionzhkevich, B. Pfeiffer, F. Pougheon, M.G. Saint-Laurent  
Beta Decay Studies of Nuclei far from Stability Near  $N=28$   
Nucl. Phys. A583, 763 (1995)

T. Rauscher, W. Böhmer, K.-L. Kratz  
Theoretical Neutron-Capture Cross Section for r-Process Nucleosynthesis in the  $^{48}\text{Ca}$  Region  
Proc. Int. Conf. on Nuclear Masses and Exotic Nuclei "ENAM '95", Arles 1995; Edition Frontières, ISBN 2-86332-186-2, 683 (1995)

A. Jokinen, P. Baumann, F. Didierjean, B. Fogelberg, P. Hoff, A. Huck, Y. Jading, B. Jonson, A. Knipper, K.-L. Kratz, W. Kurcewicz, M. Lindroos, A. Lindroth, G. Lovhoiden, H. Mach, G. Marguier, G. Nyman, M. Ramdhane, M. Sanchez-Vega, R. Taylor, T.F. Thors  
First Observation of Neutron Single Particle States in  $^{133}\text{Sn}$   
Proc. Int. Conf. on Nuclear Masses and Exotic Nuclei "ENAM '95", Arles 1995; Edition Frontières, ISBN 2-86332-186-2, 499 (1995)

O. Sorlin, Th. Dörfler, R. Anne, W. Böhmer, V. Borrel, D. Guillemaud-Müller, S. Grévy, K.-L. Kratz, M. Lewitowicz, T. Mehren, A.C. Mueller, A. Ostrowsky, F. Pougheon, I. Rabout, Th. Rauscher, M. Robinson, M.G. Saint-Laurent, W.D. Schmidt-Ott  
Beta-Decay Studies of Neutron-Rich Sc, Ti, V, Cr  
Proc. Int. Conf. on Nuclear Masses and Exotic Nuclei "ENAM '95", Arles 1995; Edition Frontières, ISBN 2-86332-186-2, 605 (1995)

B. Chen, J. Dobaczewski, K.-L. Kratz, K. Langanke, B. Pfeiffer, F.-K. Thielemann, P. Vogel  
Influence of Shell-Quenching far from Stability on the Astrophysical r-Process  
Phys. Lett. B355, 37 (1995)

K.-L. Kratz  
Nuclear Properties far from Stability and the r-Process  
Proc. 3rd Int. Workshop on Nuclei in the Cosmos, Assergi, Italy, Juli 1994; AIP Conf. Proc. 327, 113 (1995)

G. Lhersonneau, H. Gabelmann, M. Liang, B. Pfeiffer, K.-L. Kratz, H. Ohm and the ISOLDE Collaboration

Level Scheme of  $^{101}\text{Zr}$  and Structure of the  $N=61$  Sr, Zr and Mo Isotones  
Phys. Rev. C51, 1211 (1995)

G. Lhersonneau, H. Gabelmann, B. Pfeiffer, K.-L. Kratz and the ISOLDE Collaboration  
Structure of the Highly Deformed Nucleus  $^{101}\text{Sr}_{63}$  and Evidence for Identical  $K=3/2$  Bands  
Z. Phys. A352, 293 (1995)

G. Lhersonneau, B. Pfeiffer, M. Hutha, A. Wöhr, I. Klöckl, K.-L. Kratz, J. Äystö and the ISOLDE Collaboration

First Evidence for the  $2+$  Level in the Very Neutron-Rich Nucleus  $^{102}\text{Sr}$   
Z. Phys. A351, 357 (1995)

S. Schoedder, G. Lhersonneau, A. Wöhr, G. Skarnemark, J. Alstad, A. Nähler, K. Eberhardt, J. Äystö, N. Trautmann, K.-L. Kratz

Level Lifetimes in Neutron-Rich Ru Isotopes  
Z. Phys. A352, 237 (1995)

B. Pfeiffer, G. Lhersonneau, H. Gabelmann, K.-L. Kratz and the ISOLDE Collaboration  
K-Isomeric State in Even-Even  $^{100}\text{Sr}$

Z. Phys. A353, 1 (1995)

V.N. Fedoseyev, P. van Duppen, G. Huber, Y. Jading, O.C. Jonsson, R. Kirchner, K.-L. Kratz, M. Krieg, E. Kugler, J. Lettry, T. Mehren, V.I. Mishin, T. Rauscher, H.L. Ravn, F. Scheerer, O. Tengblad, A. Wöhr and the ISOLDE Collaboration

Study of Short-Lived Silver Isotopes with a Laser Ion Source  
Z. Phys. A353, 9 (1995)

T. Rauscher, F.-K. Thielemann, K.-L. Kratz

The Nuclear Level Density and the Determination of Thermonuclear Rates for Astrophysics  
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B. Pfeiffer, K.-L. Kratz, J. Dobaczewski, P. Möller

Calculation of Decay Properties of Very Neutron-Rich Nuclei with a Modified Nilsson Potential  
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T. Mehren, B. Pfeiffer, S. Schoedder, K.-L. Kratz, M. Huhta, P. Dendooven, A. Honkanen, G.

Lhersonneau, M. Oinonen, J.-M. Parmonen, H. Penttilä, A. Popov, V. Rubchenya, J. Äystö  
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T. Dörfler, W.-D. Schmidt-Ott, T. Hild, T. Mehren, W. Böhmer, P. Möller, B. Pfeiffer, T.

Rauscher, K.-L. Kratz, O. Sorlin, V. Borrel, S. Grevy, D. Guillemaud-Mueller, A.C. Mueller, F. Pougheon, M.G. Saint-Laurent, R. Anne, M. Lewitowicz, A. Ostrowsky, M. Robinson  
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T. Kautzsch, W.B. Walters, V.N. Fedoseyev, Y. Jading, A. Jokinen, I. Klöckl, K.-L. Kratz, V.I. Mishin, H.L. Ravn, P. Van Duppen, A. Wöhr  
 Laser Ionization of  $^{124}\text{Ag}$  and its Decay to Levels of  $^{124}\text{Cd}$   
 Phys. Rev. C 54, R2811 (1996)

Y. Jading, R. Catherall, V.N. Fedoseyev, A. Jokinen, O.C. Jonsson, T. Kautzsch, I. Klöckl, K.-L. Kratz, E. Kugler, J. Lettry, V.I. Mishin, H.L. Ravn, F. Scheerer, O. Tengblad, P. Van Duppen, W.B. Walters, A. Wöhr and the ISOLDE Collaboration  
 Production of Radioactive Ag Ion Beams with a Chemically Selective Laser Ion Source  
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 Selective Laser Ionization of Radioactive Ni-Isotopes  
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F.-K. Thielemann, T. Rauscher, C. Freiburghaus, K. Nomoto, M. Hashimoto, B. Pfeiffer, K.-L. Kratz  
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 Proc. Summer School on Nuclear and Particle Astrophysics, August 1997, Guanajuato, Mexico;  
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 Nucl. Phys. A621, 327c (1997)

T. Rauscher, F.-K. Thielemann, K.-L. Kratz  
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H. Schatz, A. Aprahamian, B.A. Brown, J. Görres, H. Herndl, K.-L. Kratz, P. Möller, B. Pfeiffer, T. Rauscher, J.F. Rembes, F.-K. Thielemann, M. Wiescher, L. van Wormer  
 The Endpoint of the rp-Process  
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T. Rauscher, F.-K. Thielemann, K.-L. Kratz  
 The Nuclear Level Density and the Determination of Thermonuclear Rates for Astrophysics  
 Phys. Rev. C56, 1613 (1997)

B. Pfeiffer, K.-L. Kratz, F.-K. Thielemann  
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 Z. Phys. A357, 235 (1997)

- P. Möller, J.R. Nix, K.-L. Kratz  
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Detailed Investigation of the Beta-Decay of the  $9/2^+$  Ground State of  $^{99}\text{Nb}$  to Levels in  $^{99}\text{Mo}$   
Z. Phys. A358, 317 (1997)
- W.B. Walters, K.-L. Kratz, and the ISOLDE-Collaboration  
Monopole Shifts of Single-Particle Energies and Shell Quenching at  $N = 82$   
Proc. Int. Symp. Nuclei in the Cosmos V, July 1998, Volos, Greece, Editions Frontières; in print
- K.-L. Kratz  
New Nuclear-Structure Measurements on r-Process Nuclei  
Proc. 2nd Int. Conf. on Exotic Nuclei and Atomic Masses - ENAM98, June 1998, Bellaire, Michigan, USA; 827 (1998)
- K.-L. Kratz, B. Pfeiffer, M. Hannawald, F.-K. Thielemann, J. Görres, H. Schatz, M. Wiescher  
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Il Nuovo Cimento 111A, 1043 (1998)
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Beta Decay of  $^{68-74}\text{Ni}$  and Level Structure of Neutron-Rich Cu Isotopes  
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Beta-Decay of  $^{111}\text{Tc}$  to  $^{111}\text{Ru}$   
Eur. Phys. J. A2, 17 (1998)
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- O. Sorlin, V. Borrel, S. Grevy, D. Guillemaud-Mueller, A.C. Mueller, F. Pougheon, W. Böhmer, K.-L. Kratz, T. Mehren, P. Möller, B. Pfeiffer, T. Rauscher, M.G. Saint-Laurent, R. Anne, M. Lewitowicz, A. Ostrowski, Th. Dörfler, W.-D. Schmidt-Ott  
First Beta-Decay Studies of Neutron-Rich  $^{53-55}\text{Sc}$  and  $^{56-59}\text{V}$   
Nucl. Phys. A632, 205 (1998)
- T. Rauscher, R. Bieber, H. Oberhammer, K.-L. Kratz, J. Dobaczewski, P. Möller, M.M. Sharma  
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L. Weissman, A. Andreyev, B. Bruyneel, S. Franchoo, M. Huyse, U. Köster, K.-L. Kratz, K. Krouglov, Y. Kudryavtsev, W.F. Mueller, B. Pfeiffer, R. Raabe, I. Reusen, P. Thierolf, P. Van Duppen, J. Van Roosbroeck, W.B. Walters  
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 Phys. Rev. C59, 2004 (1999)

M. Hannawald, T. Kautzsch, A. Wöhr, W.B. Walters, K.-L. Kratz, V.N. Fedoseyev, V.I. Mishin, W. Böhmer, B. Pfeiffer, V. Sebastian, Y. Jading, U. Köster, J. Lettry, H.L. Ravn, and the ISOLDE Collaboration  
 Decay of Neutron-Rich Mn Isotopes and Deformation of Heavy Fe Isotopes  
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J.J. Cowan, B. Pfeiffer, K.-L. Kratz, F.-K. Thielemann, C. Sneden, S. Burles, D. Tytler, T.C. Beers  
 r-Process Abundances and Chronometers in Metal-Poor Stars  
 Ap.J. 521, in print

J.C. Wang, P. Dendooven, M. Hannawald, A. Honkanen, M. Huhta, A. Jokinen, K.-L. Kratz, G. Lhersonneau, M. Oinonen, H. Penttilä, K. Peräjärvi, B. Pfeiffer, and J. Äystö  
 Beta-Delayed Neutron Decay of  $^{104}\text{Y}$ ,  $^{112}\text{Tc}$ ,  $^{113}\text{Tc}$  and  $^{114}\text{Tc}$ : Test of Half-Life Predictions for Refractory Neutron-Rich Nuclei  
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### Veröffentlichungen der letzten fünf Jahre

#### 1990

G. Lhersonneau, H. Gabelmann, K. Heyde, N. Kaffrell, K.-L. Kratz, B. Pfeiffer and the ISOLDE Collaboration

Twin Rotational Bands at the Onset of Deformation in Neutron-Rich Sr Isotopes  
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Saturation of Deformation at N=60 in the Sr Isotopes  
 Z. Phys. A337 (1990) 143

G. Lhersonneau, B. Pfeiffer, K.-L. Kratz, H. Ohm, K. Sistemich, S. Brant, V. Paar  
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 Correlated Ca-Ti-Cr-Fe-Ni Anomalies in Meteorites: Neutron Capture and NSE Models and their Predictions

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 Proc. 6<sup>th</sup> Int. Workshop on Nuclear Astrophysics, Ringberg Castle, Febr. 1991  
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 Proc. First European Biennial Workshop on Nuclear Physics, Megève, France, March 1991  
 World Scientific, ISBN 981-02-0839-1 (1991) 218

G. Lhersonneau, H. Gabelmann, B. Pfeiffer, K.-L. Kratz, the OSTIS and ISOLDE Collaborations  
 Analogy Between Ground-State Bands in Neutron-Rich  $A \approx 100$  Isotopes and Super-Deformed Bands in Heavy Nuclei  
 Proc. First European Biennial Workshop on Nuclear Physics, Megève, France, March 1991  
 World Scientific, ISBN 981-02-0839-1 (1991) 214

K.-L. Kratz  
 Von Abwasser bis Zahnpasta  
 Forschungsmagazin der Johannes Gutenberg-Universität Mainz, Sonderheft zur Hannover Messe, 1991

V. Harms, K.-L. Kratz, M. Wiescher  
 Properties of  $^{22}\text{Ne}(\alpha, n)^{25}\text{Mg}$  Resonances  
 Phys. Rev. C43 (1991) 2849

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 Neutron-Rich Isotopes Around the r-Process Waiting-Point Nuclei  $^{79}_{29}\text{Cu}_{50}$  and  $^{80}_{30}\text{Zn}_{50}$   
 Z. Phys. A340 (1991) 419

## 1992

K.-L. Kratz, H. Gabelmann, P. Möller, B. Pfeiffer, A. Wöhr, F.-K. Thielemann  
 R-Process Abundances and Nuclear Properties far from Stability  
 Proc. Int. Conf. on Nuclear Data for Science and Technology, Jülich, May 1991  
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