

# List of publications

Prof. Dr. Andreas Zilges – Institut für Kernphysik  
Universität zu Köln, Zülpicher Str. 77, D-50937 Köln  
Tel: +49-221-470-7340, Fax: +49-221-470-5168,  
zilges@ikp.uni-koeln.de, URL: www.zilges.de

## Publications in refereed journals

(without conference proceedings)

1. *Evidence for a cluster of collective  $1^+$  states in  $^{150}\text{Nd}$  near 3 MeV*,  
B. Kasten, R. D. Heil, P. von Brentano, P. A. Butler, S. D. Hoblit, U. Kneissl,  
S. Lindenstruth, G. Müller, A. M. Nathan, H. H. Pitz, K. W. Rose, W. Scharfe,  
M. Schumacher, U. Seemann, Th. Weber, C. Wesselborg, and A. Zilges,  
*Phys. Rev. Lett.* **63** (1989) 609.
2. *Parity assignments in Nuclear Resonance Fluorescence Experiments using  
Compton polarimeters*,  
R. D. Heil, B. Kasten, W. Scharfe, P. A. Butler, H. Friedrichs, S. D. Hoblit,  
U. Kneissl, S. Lindenstruth, M. Ludwig, G. Müller, H. H. Pitz, K. W. Rose,  
M. Schumacher, U. Seemann, J. Simpson, P. von Brentano, Th. Weber, C. Wes-  
selborg, and A. Zilges,  
*Nucl. Phys.* **A506** (1990) 223.
3. *Observation of low-lying collective dipole transitions in the rare earth nuclei  
 $^{172,174,176}\text{Yb}$* ,  
A. Zilges, P. von Brentano, C. Wesselborg, R. D. Heil, U. Kneissl, S. Linden-  
struth, H. H. Pitz, U. Seemann, and R. Stock,  
*Nucl. Phys.* **A507** (1990) 399.
4. *Low energy photon scattering off  $^{142,146,148,150}\text{Nd}$ : An investigation in the mass  
region of a nuclear shape transition*,  
H. H. Pitz, R. D. Heil, U. Kneissl, S. Lindenstruth, U. Seemann, R. Stock,  
C. Wesselborg, A. Zilges, P. von Brentano, S. D. Hoblit, and A. M. Nathan,  
*Nucl. Phys.* **A509** (1990) 587.

5. *Photoexcitation of low-lying dipole transitions in  $^{236}\text{U}$ ,*  
 J. Margraf, A. Degener, H. Friedrichs, R. D. Heil, A. Jung, U. Kneissl, S. Lindenstruth, H. H. Pitz, H. Schacht, U. Seemann, R. Stock, C. Wesselborg, P. von Brentano, and A. Zilges,  
 Phys. Rev. **C42** (1990) 771.
6. *Uncommon decay branching ratios of spin-one states in the rare earth region and evidence for  $K$  mixing,*  
 A. Zilges, P. von Brentano, A. Richter, R. D. Heil, U. Kneissl, H. H. Pitz, and C. Wesselborg,  
 Phys. Rev. **C42** (1990) 1945.
7. *A survey of  $\Delta K=0$  dipole transitions from low lying  $J=1$  states in rare earth nuclei,*  
 A. Zilges, P. von Brentano, H. Friedrichs, R. D. Heil, U. Kneissl, S. Lindenstruth, H. H. Pitz, and C. Wesselborg,  
 Z. Phys. A – Hadrons and Nuclei **340** (1991) 155.
8. *Admixture of the Giant Dipole Resonance to low lying  $1^-$ -states in heavy nuclei,*  
 A. Zilges, P. von Brentano, and A. Richter,  
 Z. Phys. A – Hadrons and Nuclei **341** (1992) 489.
9. *Evidence for enhanced Electric Dipole Excitations in deformed Rare Earth Nuclei near 2.5 MeV,*  
 H. Friedrichs, B. Schlitt, J. Margraf, S. Lindenstruth, C. Wesselborg, R. D. Heil, H. H. Pitz, U. Kneissl, P. von Brentano, R. D. Herzberg, A. Zilges, D. Häger, G. Müller, and M. Schumacher,  
 Phys. Rev. **C45** (1992) R892.
10.  *$E1$  operator in the  $sdf$ -Interacting Boson Model from an Alaga rule constraint,*  
 P. von Brentano, N. V. Zamfir, and A. Zilges,  
 Phys. Lett. **B278** (1992) 221.
11. *Investigation of Low Lying Dipole Excitations in  $^{182,184,186}\text{W}$ ,*  
 R.-D. Herzberg, A. Zilges, P. von Brentano, R. D. Heil, U. Kneissl, J. Margraf, H. H. Pitz, H. Friedrichs, S. Lindenstruth, C. Wesselborg,  
 Nucl. Phys. **A563** (1993) 445.

12. *The Deformation Dependence of Low Lying M1 Strengths in Even Nd Isotopes*,  
J. Margraf, R. D. Heil, U. Maier, U. Kneissl, H. H. Pitz, H. Friedrichs, S. Lindenstruth, B. Schlitt, C. Wesselborg, P. von Brentano, R.-D. Herzberg, and A. Zilges,  
Phys. Rev. **C47** (1993) 1474.
13. *First Identification of Dipole Excitations to a  $2^+ \otimes 3^- \otimes$  Particle Multiplet in an Odd-A Nucleus*,  
A. Zilges, R.-D. Herzberg, P. von Brentano, F. Dönau, R. D. Heil, R. V. Jolos, U. Kneissl, J. Margraf, H. H. Pitz, and C. Wesselborg,  
Phys. Rev. Lett. **70** (1993) 2880.
14. *First Observation of Scissors Mode States in an Odd-Mass Nucleus*,  
I. Bauske, J. M. Arias, P. von Brentano, A. Frank, H. Friedrichs, R. D. Heil, R.-D. Herzberg, F. Hoyler, P. Van Isacker, U. Kneissl, J. Margraf, H. H. Pitz, C. Wesselborg, A. Zilges,  
Phys. Rev. Lett. **71** (1993) 975.
15. *First Experimental Evidence for Two-Phonon Octupole- $\gamma$ -Vibrational Excitations in Deformed Nuclei*,  
U. Kneissl, A. Zilges, J. Margraf, I. Bauske, P. von Brentano, H. Friedrichs, R. D. Heil, R.-D. Herzberg, H. H. Pitz, B. Schlitt, C. Wesselborg,  
Phys. Rev. Lett. **71** (1993) 2180.
16. *A sectored Ge-Compton polarimeter for parity assignments in photon scattering experiments*,  
B. Schlitt, U. Maier, H. Friedrichs, S. Albers, I. Bauske, P. von Brentano, R. D. Heil, R.-D. Herzberg, U. Kneissl, J. Margraf, H. H. Pitz, C. Wesselborg, and A. Zilges,  
Nucl. Instr. and Meth. in Phys. Res. **A337** (1994) 416.
17. *Low-lying E1 and M1 strengths in the deformed nucleus  $^{160}\text{Gd}$* ,  
H. Friedrichs, D. Häger, P. von Brentano, R. D. Heil, R.-D. Herzberg, U. Kneissl, J. Margraf, G. Müller, H. H. Pitz, B. Schlitt, M. Schumacher, C. Wesselborg, and A. Zilges,  
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18. *Low-lying dipole excitations in the isotopes  $^{113,114}\text{Cd}$ ,*  
W. Geiger, Zs. Nemeth, I. Bauske, P. von Brentano, R. D. Heil, R.-D. Herzberg,  
U. Kneissl, J. Margraf, H. Maser, N. Pietralla, H. H. Pitz, C. Wesselborg, and  
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Nucl. Phys. **A580** (1994) 263.
19. *Width of the 3841-keV level in  $^{17}\text{O}$ ,*  
R. Moreh, O. Beck, U. Kneissl, J. Margraf, H. Maser, H. H. Pitz, R.-D. Herzberg,  
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Phys. Rev. **C50** (1994) 2222.
20. *Absolute Level Widths in  $^{27}\text{Al}$  below 4 MeV,*  
N. Pietralla, I. Bauske, O. Beck, P. von Brentano, W. Geiger, R.-D. Herzberg,  
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Phys. Rev. **C51** (1995) 1021.
21. *Observation of Dipole Transitions to a  $2^+ \otimes 3^- \otimes$  particle multiplet in  $^{143}\text{Nd}$ ,*  
R.-D. Herzberg, A. Zilges, A. M. Oros, P. von Brentano, U. Kneissl, J. Margraf,  
H. H. Pitz, and C. Wesselborg,  
Phys. Rev. **C51** (1995) 1226.
22. *Lifetimes of Two-Phonon  $1^-$  States in even  $N=82$  Nuclei,*  
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23. *Strong Dipole Excitations around 1.8 MeV in  $^{238}\text{U}$ ,*  
A. Zilges, P. von Brentano, R.-D. Herzberg, U. Kneissl, J. Margraf, H. Maser,  
N. Pietralla, and H. H. Pitz,  
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24. *Correlation between low lying  $M1$  and  $E2$  strength in heavy Rare Earth nuclei,*  
N. Pietralla, P. von Brentano, R.-D. Herzberg, U. Kneissl, J. Margraf, H. Maser,  
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25. *Systematics of low-lying dipole strengths in odd and even Dy and Gd isotopes*,  
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H. H. Pitz, A. Schiller, P. von Brentano, R. Fischer, R.-D. Herzberg, N. Pietralla,  
A. Zilges, and H. Friedrichs,  
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26. *First Observation of the Scissors Mode in a  $\gamma$ -soft nucleus: The case of  $^{196}\text{Pt}$* ,  
P. von Brentano, J. Eberth, J. Enders, L. Esser, R.-D. Herzberg, N. Huxel,  
H. Meise, P. von Neumann-Cosel, N. Nicolay, N. Pietralla, H. Prade, J. Reif,  
A. Richter, C. Schlegel, R. Schwengner, S. Skoda, H. G. Thomas, I. Wieden-  
hoefer, G. Winter, and A. Zilges,  
Phys. Rev. Lett. **76** (1996) 2029.
27. *Systematics of low-lying dipole excitations in the deformed even-even nuclei*  
 $^{164,166,168,170}\text{Er}$ ,  
H. Maser, S. Lindenstruth, I. Bauske, O. Beck, P. von Brentano, T. Eckert,  
H. Friedrichs, R. D. Heil, R.-D. Herzberg, A. Jung, U. Kneissl, J. Margraf,  
N. Pietralla, H. H. Pitz, C. Wesselborg, and A. Zilges,  
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28. *A direct proof of the two-phonon character of the dipole excitation in  $^{142}\text{Nd}$*   
*and  $^{144}\text{Sm}$  around 3.5 MeV*,  
M. Wilhelm, E. Radermacher, A. Zilges, and P. von Brentano,  
Phys. Rev. C **54** (1996) 449R.
29. *Observation of the  $1^+$  scissors mode in the gamma-soft nucleus  $^{134}\text{Ba}$* ,  
H. Maser, N. Pietralla, P. von Brentano, R.-D. Herzberg, U. Kneissl, J. Mar-  
graf, H. H. Pitz, and A. Zilges,  
Phys. Rev. C **54** (1996) 2129R.
30. *Systematic study of the fragmentation of low-lying dipole strength in odd-A*  
*rare earth nuclei investigated in nuclear resonance fluorescence experiments*,  
A. Nord, A. Schiller, T. Eckert, O. Beck, J. Besserer, P. von Brentano, R. Fis-  
cher, R.-D. Herzberg, D. Jäger, U. Kneissl, J. Margraf, H. Maser, N. Pietralla,  
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G. Streletz, A. Zilges, N. V. Zamfir, R. F. Casten, D. S. Brenner, and B. Liu,  
Phys. Rev. C **54** (1996) 2815R.
32. *Fine structure of the E1 response in  $^{140}\text{Ce}$  below the particle threshold*,  
R.-D. Herzberg, P. von Brentano, J. Eberth, J. Enders, R. Fischer, N. Huxel,  
T. Klemme, P. von Neumann-Cosel, N. Nicolay, N. Pietralla, V. Yu. Ponomarev,  
J. Reif, A. Richter, C. Schlegel, R. Schwengner, S. Skoda, H. G. Thomas,  
I. Wiedenhöver, G. Winter, and A. Zilges,  
Phys. Lett. B **390** (1997) 49.
33. *The Scissors Mode and other dipole excitations in the transitional nuclei  $^{178,180}\text{Hf}$* ,  
N. Pietralla, O. Beck, J. Besserer, P. von Brentano, T. Eckert, R. Fischer,  
C. Fransen, R.-D. Herzberg, D. Jäger, R. V. Jolos, U. Kneissl, B. Krischok,  
J. Margraf, H. Maser, A. Nord, H. H. Pitz, M. Rittner, A. Schiller, and  
A. Zilges,  
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34. *Dipole excitations in the transitional nucleus  $^{144}\text{Nd}$  studied in photon scattering experiments*,  
T. Eckert, O. Beck, J. Besserer, P. von Brentano, R. Fischer, R.-D. Herzberg,  
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and A. Zilges,  
Phys. Rev. C **56** (1997) 1256
35. *Fragmentation of low-lying dipole strength in the odd-mass nucleus  $^{133}\text{Cs}$* ,  
J. Besserer, O. Beck, P. von Brentano, T. Eckert, R.-D. Herzberg, D. Jäger,  
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A. Zilges,  
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36. *Resonant photon scattering on the semi-magic nucleus  $^{89}\text{Y}$  up to 7 MeV*,  
J. Reif, P. von Brentano, J. Eberth, J. Enders, R.-D. Herzberg, N. Huxel,  
L. Käubler, P. von Neumann-Cosel, N. Nicolay, N. Pietralla, H. Prade, A. Richter,  
C. Schlegel, H. Schnare, R. Schwenger, T. Servene, S. Skoda, H. G. Thomas,  
I. Wiedenhöver, G. Winter, and A. Zilges,  
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37. *Two-phonon  $J = 1$  states in even-mass Te isotopes with  $A = 122 - 130$ ,*  
R. Schwengner, G. Winter, W. Schauer, M. Grinberg, F. Becker, P. von Brentano, J. Eberth, J. Enders, T. von Egidy, R.-D. Herzberg, N. Huxel, L. Käubler, P. von Neumann-Cosel, N. Nicolay, J. Ott, N. Pietralla, H. Prade, S. Raman, J. Reif, A. Richter, C. Schlegel, H. Schnare, T. Servene, S. Skoda, T. Steinhardt, C. Stoyanov, H. G. Thomas, I. Wiedenhover, and A. Zilges,  
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38. *Coulomb Excitation of Radioactive Nuclear Beams in Inverse Kinematics,*  
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39. *Observation of an Octupole  $\otimes$  Quasiparticle Band in  $^{175}\text{Lu}$  using Photon Scattering Experiments,*  
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40. *Systematics of low-lying dipole excitations in the  $A \simeq 130-200$  mass region,*  
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41. *Two-phonon character of the lowest electric dipole excitation in  $^{142}\text{Nd}$  and in other nuclei near shell closures,*  
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Phys. Rev. C **57** (1998) 577
42. *Systematics of the excitation energy of the  $1^+$  scissors mode and its empirical dependence on the nuclear deformation parameter,*  
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43. *Photon scattering off  $^{52}\text{Cr}$ : Two-phonon  $E1$  strength at the  $N=28$  shell closure?*  
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44. *Complete scissors mode strength in heavy deformed odd-mass nuclei: a case study of  $^{165}\text{Ho}$  and  $^{169}\text{Tm}$ ,*  
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45. *Real photon scattering up to 10 MeV: The improved facility at the Darmstadt electron accelerator S-DALINAC,*  
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 Nucl. Instr. Meth. Phys. Res. **A423** (1999) 480.
46. *Low-lying dipole excitations in the transitional nuclei  $^{190,192}\text{Os}$ ,*  
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47. *Neutron capture of  $^{26}\text{Mg}$  at  $kT = 52\text{keV}$  and the resonance at  $E_n=68.7\text{keV}$ ,*  
 P. Mohr, H. Beer, H. Oberhummer, W. Rochow, P. V. Sedyshev, S. Volz, and A. Zilges  
 Phys. Rev. C **60** (1999) 017603.
48. *Nature of excited  $0^+$  states in  $^{154}\text{Sm}$ ,*  
 R. Krücken, C. Barton, C. W. Beausang, R. F. Casten, G. Cata-Danil, J. R. Cooper, J. Novak, L. Yang, M. Wilhelm, N. V. Zamfir, and A. Zilges,  
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49. *Photoactivation of  $^{180m}\text{Ta}$  and its implications for the nucleosynthesis of nature's rarest naturally occurring isotope*,  
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51. *Measurement of the dipole and electric quadrupole strength distributions up to 10 MeV in the doubly magic nuclei  $^{40}\text{Ca}$  and  $^{48}\text{Ca}$* ,  
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53. *The YRAST Ball array*,  
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56. *Measurement of the  $(\gamma, n)$  reaction rates of the nuclides  $^{190}\text{Pt}$ ,  $^{192}\text{Pt}$ , and  $^{198}\text{Pt}$  in the astrophysical  $\gamma$  process*,  
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Phys. Lett. **B517** (2001) 255.
59. *Photo-induced depopulation of the  $^{180}\text{Ta}^m$  isomer via low-lying intermediate states: Structure and astrophysical implications*,  
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60. *Dipole and electric quadrupole excitations in  $^{40,48}\text{Ca}$* ,  
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61. *Dipole and electric quadrupole excitations in  $^{32}\text{S}$  up to 9.9 MeV*,  
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