

**Lucrări științifice**Lucrări monografice științifice

1. **D. E. Demco și I. Ursu,**  
*Nuclear magnetic resonance in the determination of spatial distribution of inorganic and organic structures*, Studies and Research in Physics, **29**, 485 (1977)
2. **D. E. Demco și B. Novacu,**  
*The effects of neutron irradiation on superconducting materials*, Studies and Research in Physics, **29**, 467 (1977)
3. **D. E. Demco, I. Baldea, D. Barb,**  
*Nuclear magnetic relaxation in superconducting materials*, Stud. Res. in Phys. **30**, 59 (1977)
4. **I. Ursu, D. E. Demco,**  
*Nuclear radiation and ion implanted effects on superconductors*, Inst. Atom. Phys. Rep. (Bucharest), **SR18**, 1, (1976)
5. **D. E. Demco, I. Ursu,**  
*Nuclear magnetic resonance tomography*, Inst. Atom Rep. (Bucharest), **RS**, 1, (1976)
6. **E. Gheorghiu, D. E. Demco, I. Ursu,**  
*Cross-relaxation theory in double-resonance experiments*, Stud. Res. in Phys. **30**, 745 (1978)
7. **D. E. Demco,**  
*Nuclear magnetic double-resonance spectroscopy*, Stud. Res. in Phys., **30**, 848 (1978)
8. **D. E. Demco,**  
*Structural and molecular dynamics in solid state NMR by double-resonance methods* Stud. Res. in Phys. **31**, 81 (1979)
9. **D. E. Demco,**  
*High-resolution NMR spectroscopy of solid by coherent averaging techniques*, Stud. Res. in Phys. **31**, 171 (1979)
10. **I. Ursu, D. E. Demco,**  
*Nuclear Magnetic Resonance on Uranium Hexafluoride*, in Proc. 7th Specialized Colloque Ampere, eds. I. Ursu, H. Hauser, Elsevier, 1986
11. **R. Kimmich, D. E. Demco, S. Hafner,**  
*Slice-selection and phase-encoding techniques in Solid State NMR imaging*, "Magnetic Resonance Microscopy", eds. B. Blumich, W. Kuhn, VCH, 1992
12. **I. Coroiu, D. E. Demco,**  
*Nuclear Magnetic Resonance of the Volatile Uranium Compounds used for Isotopic Separation by Selective Laser Excitation*, Romanian Rep. Phys. **3**, 215 (1992)

13. S. Hafner, D.E. Demco, R. Kimmich,  
*Magic-Echoes and NMR Imaging of Solids*, Solid State Nucl. Magn. Reson. **6**, 275, (1996)
14. D.E. Demco și B. Blümich,  
*Solid-State NMR Imaging Methods, Part I: Strong Field Gradients*, Concepts in NMR, **12**, 188 (2000)
15. D.E. Demco, B. Blümich,  
*Solid-State NMR Imaging Methods, Part II: Line Narrowing*, Concepts in NMR, **12**, 269 (2000)
16. D.E. Demco, S. Hafner și H.W. Spiess  
*Multidimensional NMR Techniques for the Characterization of Viscoelastic Materials*, in Spectroscopic Methods of Rubbery Materials, Ed. V. Litvinov, Rapra (2002)
17. B. Blümich și D.E. Demco  
*NMR Imaging of Elastomers*, in Spectroscopic Methods of Rubbery Materials, Ed. V. Litvinov, Rapra (2002)
18. D.E. Demco și B. Blümich  
*NMR Imaging of Materials*, Current Opinions in Solid State and Material Sciences, **5**, 195 (2001)
19. S. Hafner și D.E. Demco  
*Solid-State NMR Spectroscopy under Periodic Modulation of Fast Magic-Angle Sample Spinning and Pulses*, Solid State Nucl. Magn. Reson. **22**, 247, (2002), (issue dedicated to Professor Hans W. Spiess on the occasion of his 60<sup>th</sup> birthday)
20. D.E. Demco și B. Blümich  
*Nuclear Magnetic Resonance*, Encyclopedia of Polymer Science & Technology, 3<sup>rd</sup> Edition, Volume 10, pages 637-717
21. G. Navon, U. Eliav, D.E. Demco, B. Blümich  
*Order and dynamic processes in tendon studied by NMR*, J. Magn. Reson. Imaging **23**, 14 (2007)

### Lucrări științifice

1. D. E. Demco,  
*Le déplacement de resonance frequency dans l'approximation de Born la plus base*, Rev. Roum. Phys. **12**, 791, (1976)
2. D. E. Demco,  
*The generalized Bloch equation for the scalar relaxation*, Studia Universitatis Babeș-Bolyai, **1**, 116, (1968)
3. D. E. Demco,  
*Effets de memoire dans la relaxation scalaire*, C.R. Acad.Sci.Paris, **t265**, 1287, (1967)

4. **D. E. Demco**, F. Constantinescu,  
*Dispersion relations between relaxation times and the shift of resonance frequency*  
Physica Status Solidi, **21K**, 151 (1967)
5. F. Constantinescu, **D. E. Demco**, S. Dumitru and A. Wieszman,  
*Quantum theory of relaxation in magnetic resonance*, Studies and Research in Physics,  
**20**, 885 (1968)
6. A. Weiszman și **D. E. Demco**  
*The bound state of two-electrons in crystals*, Czechoslovak J. Phys. **16**, 234 (1966)
7. A. Weiszman și **D. E. Demco**  
*The effective potential for two electrons in crystals*, Studia Universitatis Babes-Bolyai,  
**1**, 118 (1966)
8. **D. E. Demco**,  
*The resonance frequency shift by inter- and intermolecular dipole-dipole interactions*  
Studia Univ. Babes-Bolyai, **2**, 99 (1967)
9. **D. E. Demco**,  
*Nuclear magnetic resonance free induction decay in a system of several species*  
Physics Letters, **27**, 702 (1968)
10. **D. E. Demco** și R. Baican,  
*Relaxation time measurements using simultaneous absorption and dispersion signals"*  
Studia Univ. Babes-Bolyai, **2**, 113 (1968)
11. **D. E. Demco** și R. Baican,  
*Diagrames Argand dans la resonance paramagnetique*, Studia Univ. Babes-Bolyai, **1**,  
87 (1969)
12. R. Baican, **D. E. Demco** și A. Bodi,  
*La dispersion dans la RPE dans mesure sur l'octochlorophenotiazinil*, Physica Status  
Solidi, **32K**, 89 (1969)
13. **D. E. Demco**,  
*Nuclear magnetic resonance line shape governed by time dependent Hamiltonians*,  
Rev. Roum. Phys. **16**, 1093 (1971)
14. R. Baican, **D. E. Demco** și A. Bodi,  
*Une methode absolute de mesure de la susceptibilite statique a partir du signal de  
dispersion en RPE*, Rev. Roum. Phys. **16**, 835 (1971)
15. **D. E. Demco**,  
*Green's function method for nuclear magnetic resonance line shape in rotating solids*,  
J. Magn. Reson. **7**, 412 (1972)

16. **D. E. Demco și R. Baican,**  
*The analysis of progressive saturation method for spin-lattice measurements*, Studies and Research in Physics, **25**, 705 (1973)
17. **R. Baican și D. E. Demco,**  
*The inversion ratio for a push-pull ruby maser*, Rev. Roum. Phys. **18**, 523 (1973)
18. **D. E. Demco și V. Simplaceanu,**  
*Flip-flop sequence for restoring Zeeman order in the laboratory reference frame*, Rev. Roum. Phys. **18**, 623 (1973)
19. **D. E. Demco,**  
*The electron paramagnetic relaxation processes in solids*, Physics and Chemistry Rev. **9**, 133 (1972)
20. **R. Baican, D. E. Demco and I. Ursu,**  
*The assessment of electron spin-lattice relaxation time by continuous saturation method in ruby*, Rev. Roum. Phys. **18**, 81 (1973)
21. **D. E. Demco, I. Ursu, V. Simplaceanu și N. Vilcu,**  
*Enrichment effects on  $^{19}\text{F}$  nuclear magnetic relaxation rates in liquid  $\text{UF}_6$* , Rev. Roum. Phys. **19**, 612 (1974)
22. **D. E. Demco, V. Simplaceanu și I. Ursu,**  
*Effects of the phase pulses in spin-lattice relaxation time measurements*, J. Magn. Reson. **13**, 310 (1974)
23. **D. E. Demco, V. Simplaceanu și I. Ursu,**  
*Off-resonance effects upon phase shifted pulse sequence used for spin-lattice relaxation time measurements*, Rev. Roum. Phys. **19**, 612 (1974)
24. **D. E. Demco, V. Simplaceanu și I. Ursu,**  
*Single-scan method for measuring spin-lattice relaxation times*, J. Magn. Reson. **15**, 166 (1974)
25. **I. C. Kiricuta, D. E. Demco, V. Simplaceanu,**  
*State of water in normal and tumoral tissue*, Archiv fur Geschwulstforschung, (Dresden), **42**, 226 (1973)
26. **I. Ursu, D. E. Demco, V. Simplaceanu și N. Valcu,**  
*Feasibility study for the safeguards use of NMR methods for the isotopic assay of  $^{235}\text{U}$  in  $\text{UF}_6$  steams with different enrichments*, Report to AIEA, **SR-8**, (1974)
27. **D. E. Demco, J. Tegenfeldt, J. S. Waugh,**  
*Dynamics of cross-polarization in nuclear magnetic double resonance*, Phys. Rev. **B11**, 4133 (1975)

28. **D. E. Demco**, P. van Hecke, J. S. Waugh,  
*Phase shifted pulse sequence for measurement of spin-lattice relaxation in complex systems*, J. Magn. Reson. **16**, 467 (1974)
29. **D. E. Demco**, S. Kaplan, S. Pausak, J. S. Waugh,  
*Cascade enhancement of NMR spectra of dilute spins in solids*, Chem. Phys. Lett. **30**, 77 (1975)
30. **D. E. Demco**,  
*Tetrahedral magic echo*, Phys. Lett. **45A**, 113 (1974)
31. **D. E. Demco**, V. Samplăceanu, I. Ursu,  
*Fluorine nuclear magnetic resonance study of enrichment effects in gaseous, liquid and solid uranium hexafluoride*, Rev. Roum. Phys. **22**, 705, (1977)
32. **D. E. Demco**,  
*Dynamics of nuclear spin systems*, Stud. Res. in Physics, **29**, 897, (1977)
33. **B. Novacu, D. E. Demco**,  
*Nuclear spin-lattice relaxation in some superconducting materials*, Stud. Res. in Phys., **30**, 111, (1978)
34. **D. E. Demco**,  
*The theory of nmr free induction decay*, Inst. Atom. Phys. Rep., **SR2**, 1, (1971)
35. **I. A. Naskidasvili, I. Sarimanov, D. E. Demco, N. Valcu, V. Simplăceanu**,  
*Low temperature study of zirconium hydride by NMR*, Solid State Physics, **19**, 3465, (1977)
36. **D. E. Demco, M. Bogdan, D. Mihailescu**,  
*The skin effects on nuclear magnetic resonance signal in a spherical conductor* Rev. Roum. Phys. **25**, 233, (1980)
37. **Ileana Lupsa, D. E. Demco**,  
*Nuclear magnetic relaxation in rotating reference frame*, Bull. Polytechnic Institute, Cluj. **28**, 172, (1978)
38. **I. C. Kirichuta, D. E. Demco**,  
*Nuclear magnetic resonance applications in medical diagnosis*, Rev. of Oncological Soc. (Bucharest), **18**, 1 (1979)
39. **V. Vasilescu, D. E. Demco**,  
*Water compartment in the myelinated nerve*, Experientia, **34**, 1443, (1978)
40. **I. Ursu, D. E. Demco, R. Lungu**,  
*Spin-lattice relaxation of dipolar nuclear reservoir by the anisotropy of the chemical shift tensor*, Rev. Roum. Phys. **23**, 787, (1978)

41. A. Bragacescu, D. E. Demco, V. Simplaceanu,  
*Effects of gamma-irradiation on collagen solution studied by pulsed NMR, Trav. Mus. Histoire Naturel "Grigore Antipa",* **19**, 59, (1978)
42. D. E. Demco, V. Simplaceanu,  
 *$^{43}\text{Ca}$ - $^{19}\text{F}$  nuclear magnetic double resonance, Rev. Roum. Phys.* **24**, 493, (1979)
43. M. Bogdan, D. E. Demco, A. Nicula,  
*Hydrogen diffusion in metallic hydride by NMR, Stud. Res. in Physics,* **32**, 1045, (1980)
44. M. Bogdan, D. E. Demco, A. Nicula,  
*Structural and dynamic information on metallic hydrides by NMR, Stud. Res. in Phys.* **32**, 1023, (1980)
45. D. E. Demco, M. Bogdan, L. Jakab,  
*Solid echo in metallic hydrides, Rev. Roum. Phys.* **25**, 555, (1980)
46. M. Bogdan, D. E. Demco, L. Jakab,  
*Inhomogeneous spin echo in bulk metallic hydride, Rev. Roum. Phys.* **26**, 309, (1981)
47. I. Ursu, D. E. Demco, N. Valcu,  
*Enrichment effects on proton nuclear magnetic relaxation rates in uranyl nitrate aqueous solutions, Rev. Roum. Phys.* **26**, 227, (1981)
48. I. Ursu, D. E. Demco, M. Bogdan, Al. Darabant, P. Fitori, R. Grosescu, N. Valcu,  
*Enrichment effects on  $^{19}\text{F}$  nuclear relaxation rates liquid  $\text{UF}_6$ , Rev. Roum. Phys.* **27**, 451, (1982)
49. D. E. Demco, M. Bogdan, Gh. Mihailescu,  
*Free induction decay for a spherical conductor, Rev. Roum. Phys.* **24**, 487, (1979)
50. D. E. Demco, M. Bogdan, L. Jakab,  
*Amplitude and phase of free induction decay in cylindrical conductor, Rev. Roum. Phys.* **24**, 699, (1979)
51. I. Ursu, D. E. Demco, M. Bogdan, P. Fitori,  
*The study of the NMR  $^{235}\text{U}$  enrichment detection in uranium hexafluoride gas, State Com. for Nuclear Energy Rep., CS - 8, 1, (1983)*
52. I. Ursu, D. E. Demco, N. Valcu,  
*Enrichment effects on proton nuclear magnetic relaxation rates in uranyl nitrate aqueous solutions, Rev. Roum. Phys.* **26**, 227, (1981)
53. I. Ursu, D. E. Demco, M. Bogdan, Al. Darabant, P. Fitori, R. Grosescu, N. Valcu,  
*Enrichment effects on  $^{19}\text{F}$  nuclear relaxation rates in liquid  $\text{UF}_6$ , Rev. Roum. Phys.* **27**, 451, (1982)

54. D. E. Demco, M. Bogdan, Gh. Mihailescu,  
*Free induction decay for a spherical conductor*, Rev. Roum. Phys. **24**, 487 (1979)
55. D. E. Demco, M. Bogdan, L. Jakab,  
*Amplitude and phase of NMR free induction decay in cylindrical conductors*, Rev. Roum. Phys. **24**, 699, (1979)
56. I. Ursu, D. E. Demco, M. Bogdan, P. Fitori,  
*The study of the NMR  $^{235}\text{U}$  enrichment detection in uranium hexafluoride gas*, State Com. for Nuclear Energy Rep., **CS-8,1**, (1983)
57. I. Ursu, D. E. Demco, N. Valcu,  
*Enrichment effects on proton nuclear magnetic resonance spectra of  $\text{UO}_2(\text{NO}_3)_2$  aqueous solutions*, Rev. Roum. Phys. **26**, 227 (1981)
58. I. Ursu, D. E. Demco, M. Bogdan, P. Fitori, Al. Darabant,  
*Proton nuclear magnetic relaxation in aqueous solution of  $\text{UO}_2(\text{NO}_3)_2$  and  $\text{UO}_2\text{SO}_4$* , Cent. Phys. Inst. Rep., **CS-7**, 1, (1983)
59. D. E. Demco, I. Deac, G. Ungureanu, V. Mercea,  
*The method of cinetic Pauli equation in multiphoton laser isotope separation*, Stud. Res. in Phys. **35**, 40 (1983)
60. I. Ursu, D. E. Demco,  
*Nuclear dipolar relaxation in polycrystalline uranium hexafluoride*, Proc. RAMIS-79 Conference-Poznan 1980, pp. 141
61. I. Ursu, D. E. Demco, M. Bogdan, P. Fitori, Al. Darabant,  
 *$^{19}\text{F}$  spin-lattice relaxation in  $\text{WF}_6$ ,  $\text{MoF}_6$  and  $\text{UF}_6$  gases*, Mol. Phys. **56**, 297, (1985)
62. I. Ursu, D. E. Demco, M. Bogdan, P. Fitori, Al. Darabant,  
*"Indirect NMR detection of  $^{235}\text{U}$  in gaseous uranium hexafluoride*, J. Phys. Lett. **46**, L493, (1985)
63. I. Ursu, M. Bogdan, D. E. Demco, D. Lupu, Al. Biris,  
*Proton spin-lattice relaxation in zirconium-uranium hydride*, Rev. Roum. Phys. **31**, 3 (1986)
64. I. Ursu, F. Balibanu, D. E. Demco, M. Bogdan,  
*Spin relaxation in the presence of coherent averaging pulse sequences*, Phys. Stat. Solidi, **135(b)**, 237 (1986)
65. D. E. Demco, I. Ursu, M. Bogdan,  
*Intermolecular potentials from nuclear spin-relaxation in pure gases with octahedral symmetry*, Mol. Phys. **60**, 1357, (1987)

66. I. Ursu, M. Bogdan, P. Fitori, F. Balibanu, D.E.Demco,  
 *$^{19}\text{F}$ - $^{235}\text{U}$  scalar interaction in liquid uranium hexafluoride by NMR relaxation in the rotating frame*, Rev. Roum. Phys. **32**, 333, (1987)
67. I. Ursu, D. E. Demco, F. Balibanu,  
*The response of the spin system to a radio-frequency excitation in NMR tomography*, Rev. Roum. Phys., **32**, 873 (1987)
68. I. Ursu, G. Pop, D. E. Demco, R. Dolinger, D. Gligor,  
*The convolution method in nmr tomography*, St. Res. in Phys. **39**, 909, (1987)
69. I. Ursu, R. Dollinger, G. Pop, D. E. Demco, D. Gligor,  
*Fourier and iterative algorithms for nmr tomography*, St. Res. in Phys. **39**, 931 (1987)
70. D. E. Demco, M. Bogdan, P. Fitori, F. Balibanu, Al. Darabant,  
*Investigation of molecular interactions in gaseous uranium hexafluoride by nuclear magnetic resonance*, Rev. Roum. Phys. **33**, 509 (1988)
71. I. Ursu, D. E. Demco,  
*NMR investigation of molecular interactions in octahedral symmetric molecules*, Proc. 24th Congress Ampere, Poznan (1988)
72. I. Ursu, M. Bogdan, D. E. Demco,  
*Nuclear quadrupole relaxation mechanism in octahedral symmetric molecules*, Can. J. Phys. **67**, 52 (1989)
73. D. E. Demco et al.  
*System for generating nuclear magnetic resonance images*, Rev. Roum. Phys. **34**, 59 (1989)
74. D. E. Demco, F. Balibanu, M. Bogdan,  
*The response of the spin system to a two pulse sequence in the presence of a magnetic field gradient*, Rev. Roum. Phys. **36**, 134 (1990)
75. I. Adeleanu, D. E. Demco,  
*Double quantum cross-polarization in nuclear magnetic on solids in modulated systems* Romanian J. Phys. **37**, 747, (1992)
76. L. Munteanu, D. E. Demco,  
*Four-pulse echo for J-coupled homonuclear imaging*, Presented at the 29th Conference Ampere in Athena, 1992
77. I. Ardelean, D. E. Demco,  
*Phase-alternated pulse sequence for cross-polarization in modulated spin-systems*, Stud. Univ. Babeş-Bolyai, 10, 432, (1992)
78. A. Johansson, A. Lauenstein, D. E. Demco, J. Tegenfeldt,  
*Enhancement of sensitivity to molecular motion for  $^{13}\text{C}$  rotating frame relaxation in solids*, Presented at the 29th Congress Ampere, Athena, 1992



79. D. E. Demco, S. Hafner, R. Kimmich, H.W. Weber  
*Spatially resolved homonuclear solid-state nmr. I. Slice-selection by spin-locking and localized spin temperature*, J. Magn. Reson, **94**, 317 (1991)
80. D. E. Demco, S. Hafner, R. Kimmich,  
*Spatially resolved homonuclear solid-state nmr.II Phase-encoded solid-echo and Jeener-Broekaert pulse sequence*, J. Magn. Reson. **94**, 333 (1991)
81. D. E. Demco, S. Hafner, R. Kimmich,  
*Spatially resolved homonuclear nmr.III. Magic-echo and rotary magic-echo encoding imaging*, J. Magn. Reson. **96**, 307 (1991)
82. S. Hafner, D. E. Demco, R. Kimmich,  
*Magic-echo phase-encoding method for solid-state imaging*, Meas. Sci. Technol. **2**, 882 (1991)
83. S. Hafner, D. E. Demco, R. Kimmich,  
*Slice-selective polarization transfer for localized solid-state NMR spectroscopy*, Chem. Phys. Lett **187**, 53 (1991)
84. D. E. Demco, S. Hafner, R. Kimmich,  
*Localized Cross-Polarization in Solids*, Appl. Magn. Reson. **9**, 491, (1995)
85. C. Kunze, R. Kimmich, D. E. Demco,  
*Slice-Selective J-Cross Polarization*, J. Magn. Reson. **A 110**, 136, (1994)
86. D. E. Demco, A. Johansson, J. Tegenfeldt,  
*Proton spin diffusion for spatial heterogeneity and morphology investigation of polymers*, Solid State NMR, **4**, 13, (1995)
87. D. E. Demco, A. Johansson, J. Tegenfeldt,  
*Constant-relaxation methods for diffusion measurements in the fringe field of superconducting magnets*, J. Magn. Reson. **A 110**, 183, (1994)
88. C. Kunze, R. Kimmich, D. E. Demco,  
*Cyclic and Slice-Selective J Cross Polarization for Heteronuclear Editing and Localized NMR*, J. Magn. Reson. **A101**, 277, (1993)
89. D. E. Demco, H. Kostler, R. Kimmich,  
*Adiabatic J. Cross-Polarization with and without Localization*, J. Magn. Reson., **A 110**, 183, (1994)
90. L. Munteanu, D. E. Demco, M. Bogdan,  
*A Pulse Sequence for Averaging the Strong Homonuclear Scalar Coupling in AB Spin Systems*, Appl. Magn. Reson. **5**, 369, (1993)
91. L. Munteanu, D. E. Demco, F. Balibanu, M. Bogdan,  
*Theoretical Treatment of Volume Localized NMR Spectroscopy in Weakly Coupled Spin Systems*, Appl. Magn. Reson., **6**, 549, (1994)

92. **D. E. Demco, R. Kimmich,**  
*Volume Selective NMR Spectroscopy by Dipolar and J-Cross Polarization*, 26 th Congress Ampere, Athens, 1992 (Invited Lecture)
93. **I. Ardeleanu, D. E. Demco,**  
*Cross Polarization Rate for a Time Averaged Precession Frequency Procedure*, Stud. Univ. Babes-Bolyai, Physica **XXXVI** (1), 55, (1991)
94. **I. Ardeleanu, D. E. Demco,**  
*Magic Angle Spinning and Polarization Transfer in Systems with Resolved Heteronuclear Interactions*, Stud. Univ. Babes-Bolyai, Physica **XXXVII** (1), 70, (1992)
95. **D. E. Demco, I. Coroiu,**  
*Spatial Localization in the Cyclic J Heteronuclear Rotating Frame Coherence Transfer* Appl. Magn. Reson. **8**, 255 (1995)
96. **D. E. Demco, I. Coroiu,**  
*Spatial Localized in the Heteronuclear Coherence Transfer from Scalar Order*, Appl. Magn. Reson. **7**, 521, (1994)
97. **D. E. Demco, I. Coroiu,**  
*Spatially Localized Heteronuclear Scalar Order*, Appl. Magn. Reson. **8**, 187 (1995)
98. **D.E. Demco, S. Hafner și H.W. Spiess**  
*Rotation-Synchronized Homonuclear Dipolar Decoupling*, J. Magn. Reson. **A 116**, 36 (1995)
99. **W. Sommer, J. Gottwald, D.E. Demco și H.W. Spiess**  
*Dipolar Heteronuclear Multiple-Quantum NMR Spectroscopy in Rotating Solids* J. Magn. Reson. **A113**, 131, (1995)
100. **J. Gottwald, D.E. Demco, R. Graf și H.W. Spiess**  
*High-Resolution Double-Quantum NMR Spectroscopy of Homonuclear Spin Pairs and Proton Connectivities in Solids*, Chem. Phys. Lett. **243**, 314, (1995)
101. **F. Weigand, D. E. Demco, B. Blümich și H.W. Spiess**  
*Spectral Parameters for Qualitative Mobility Contrast in NMR Imaging of Solid Polymers*, Solid State Nucl. Magn. Reson., **6**, 359, (1996)
102. **F. Weigand, D.E. Demco, B. Blümich și H.W. Spiess,**  
*Spatially resolved NMR Spin Diffusion in Solid Polymers*, J. Magn. Reson. **A 115**, 34 (1995)
103. **D. E. Demco și I. Coroiu**  
*Spatial Localization in the Heteronuclear Coherence Transfer from Scalar Order*, Appl. Magn. Reson. **6**, 549 (1994)

104. D.E. Demco, S. Hafner, I. Ardeleanu și R. Kimmich  
*Slice Selection in Solids by Localized Double-Quantum Coherence Transfer*, Appl. Magn. Reson. **9**, 491 (1995)
105. S. Hafner, D.E. Demco și R. Kimmich  
*NMR Imaging Method*, UK Patent, GB 2254697B (1992)
106. R. Kimmich, D.E. Demco și S. Hafner  
*Slice-selective polarization transfer for localized solid-state NMR spectroscopy*  
European Patent 0533032A1, (1993), and United State Patent 5,345,174 (1994)
107. C. Fülber, D.E. Demco și B. Blümich  
*The influence of Molecular Motion on Cross-Polarization in Cross-Linked Elastomers*  
Solid State Nucl. Magn. Reson. **6**, 213 (1996)
108. C. Fülber, D.E. Demco, O. Weintraub și B. Blümich  
*The Effect of Crosslinking in Elastomers by NMR Analysis of  $^{13}\text{C}$ -Edited Transverse  $^1\text{H}$  Relaxation*, Macromolecular Chemistry and Physics **182**, 23 (1995)
109. P.Sotta, C. Fülber, D.E. Demco, B. Blümich și H.W. Spiess  
*The Effects of Residual Dipolar Interactions on the NMR Relaxation in Crosslinked Elastomers*, Macromolecules, **29**, 6222, (1996)
110. D.E. Demco, S. Hafner, C. Fülber, R Graf și H.W. Spiess  
*The Magnetization Exchange Spectroscopy in Crosslinked Elastomers*, J. Chem. Phys., **105**, 11285, (1996)
111. R. Graf, D.E. Demco, J. Gottwald, S. Hafner și H.W. Spiess  
*Dipolar Couplings and Internuclear Distances by Double-Quantum NMR Spectroscopy of Solids*, J. Chem. Phys., **106**, 885 (1997)
112. U. Friederich, I. Schnell, D.E. Demco și H.W. Spiess  
*Triple-Quantum NMR Spectroscopy in Dipolar Solids*, Chem. Phys. Lett., **285**, 49, (1998)
113. M. Feike, D.E. Demco, R. Graf, J. Gottwald și H.W. Spiess  
*Broadband Multiple-Quantum NMR Spectroscopy*, J. Magn. Reson. A **122**, 43 (1996)
114. D.E. Demco, F. Weigand, C. Fülber, C. Filip, X. Filip  
*Spin-Lattice Relaxation in Multiple-Pulse Experiments as Contrast Parameter in NMR Imaging of Solids*, Appl. Magn. Reson., **12**, 363, (1997)
115. I. Coroiu, Al. Darabant, M. Bogdan, D.E. Demco  
*Parmagnetic metal complex as potential relaxation agents for NMR imaging*, Romanian J. Biophysics, **7**, 95, (1997)
116. I. Coroiu, Al. Darabant, M. Bogdan, D.E. Demco  
*Superparamagnetic particles as possible contrast agents for NMR imaging*, Romanian J. Biophysics, **7**, 103, (1997)

117. **D.E. Demco și I. Ardelean**  
*Homomuclear Dipolar Decoupling and Recoupling in Rotating Solids*, Roum. J. Phys., **15**, 335, (1997)
118. **D.E. Demco, X. Filip și C. Filip**  
*Magnetization Exchange NMR Spectroscopy in Elastomers*, Roum. J. Phys., **15**, 485, (1997)
119. **C. Filip, X. Filip, D.E. Demco și S. Hafner**  
*Formalized Floquet Theory in NMR Spectroscopy of Rotating Solids*, Mol. Phys., **92**, 757 (1997)
120. **D.E. Demco și I. Ardeleanu**  
*Spatial Localized Single Quantum Heteronuclear Polarization Transfer*, Acta Phys. Polonica, **86**, 407 (1994)
121. **D.E. Demco și I. Ardeleanu**  
*Spatial Localized Double-Quantum NMR Heteronuclear Coherence Transfer in Solids by Indirect Detection*, Acta Phys. Polonica, **89**, 699, (1996)
122. **I. Coroiu și D.E. Demco**  
*Infrared and Raman Spectroscopy of Uranium Volatile Compounds*, Roum. Rep. Phys. **47**, 145 (1995)
123. **I. Coroiu, L. Munteanu, M. Bogdan și D.E. Demco**  
*Molecular Dynamics in Hexaalkoxides by RMN Spin-Lattice Relaxation*, Roum. J. Phys. **40**, 51 (1995)
124. **I. Coroiu, D.E. Demco și M. Bogdan**  
*Nuclear Magnetic Resonance of the Volatile Uranium Compounds Used for Isotopic Separation by Selective Laser Excitation*, Rom. Rep. Phys. **45**, 515 (1993)
125. **I. Ardeleanu și D.E. Demco**  
*Double-Quantum Heteronuclear Polarization Transfer in Solids with Restricted Molecular Motion*, Rom. J. Phys. **37**, 783 (1992)
126. **D.E. Demco și I. Ardeleanu**  
*Heteronuclear Coherence Transfer by Adiabatic Level-Crossing in the Rotating Frame* Rom. J. Phys. **39**, 449 (1994)
127. **D.E. Demco, X. Filip, C. Filip, D. Chira, O. Cozar**  
*Homomuclear separated local-field spectroscopy by magnetization-exchange NMR*, Acta Phys. Polonica, **92**, 1135, (1997)
128. **A. Lupulescu, R. Fechete, D.E. Demco, O. Cozar**  
*Single-Quantum NMR Spinning-Sideband Patterns for Spin-3/2 System*, Acta Phys. Polonica, **92**, 1125, (1997)

129. I. Ardeleanu, S. Stapf, D.E. Demco și R. Kimmich  
*Nonlinear Stimulated Echo*, J. Magn. Reson. **124**, 506 (1997)
130. I. Ardeleanu, R. Kimmich, S. Stapf, D.E. Demco  
*Multiple Nonlinear Stimulated Echo*, J. Magn. Reson., **127**, 217 (1997)
131. I. Ardeleanu, R. Kimmich, S. Stapf, D.E. Demco  
*The Nonlinear Stimulated Echo in the Presence of Inequivalent Spins*, J. Magn. Reson., **132**, 138 (1998)
132. I. Schnell, A. Lupulescu, S. Hafner, D.E. Demco, H.W. Spiess  
*Resolution Enhancement in Multiple-Quantum MAS NMR Spectroscopy*, J. Magn. Reson., **133**, 61, (1998)
133. I. Coroiu, D.E. Demco  
*Second Virial Coefficient and Transport Properties of Hexafluoride Gases from Improved Intermolecular Potential*, Zeitschrift für Naturforschung, **52a**, 748 (1997)
134. R. Graf, D.E. Demco, S. Hafner, H.W. Spiess  
*Selective Residual Dipolar Couplings in Cross-Linked Elastomers by  $^1\text{H}$  Double-Quantum NMR Spectroscopy*, Solid State NMR **12**, 139, (1998)
135. T. Fritzhanns, S. Hafner, D.E. Demco, H.W. Spiess  
*Pulsed Field Gradient Selection in Two-Dimensional Magic Angle Spinning NMR Spectroscopy of Dipolar Solids*, J. Magn. Reson. **134**, 355 (1998)
136. U. Friedrich, I. Schnell, S. Brown, A. Lupulescu, D.E. Demco, H.W. Spiess  
*Spinning-Sideband Patterns in Multiple-Quantum Magic-Angle Spinning NMR Spectroscopy*, Mol. Phys. (issue dedicated to the celebration of Prof. R.R. Ernst), **95**, 1209 (1998).
137. C. Filip, S. Hafner, I. Schnell, D.E. Demco, H.W. Spiess  
*Solid-State NMR Spectra of Dipolar-Coupled Multi-Spin Systems under Fast Magic Angle Spinning*, J. Chem. Phys. **110**, 423, (1999)
138. T. Fritzhanns, S. Hafner, D.E. Demco, H.W. Spiess  
 *$^1\text{H}$  NOESY under MAS in Cross-Linked Elastomers*, Molecular Physics **97**, 931 (1999)
139. M. Schneider, L. Gasper, D.E. Demco, B. Blümich  
*Residual Dipolar Couplings by  $^1\text{H}$  Dipolar Encoded Longitudinal Magnetization, Double- and Triple-Quantum NMR in Cross-Linked Elastomers*, J. Chem. Phys. **111**, 402 (1999)
140. L. Gasper, D. E. Demco, B. Blümich  
 *$^1\text{H}$  Residual Dipolar Couplings Images by Magnetization-Exchange NMR in Cross-Linked Elastomers*, Solid State NMR, **14**, 105 (1999)

141. M. Schneider, D. E. Demco, B. Blümich  
*<sup>1</sup>H Residual Dipolar Couplings Images by Dipolar Encoded Longitudinal Magnetization, Double- and Triple-Quantum NMR Filters in Cross-Linked Elastomers*, J. Magn. Reson. **140**, 432 (1999)
142. K. Saalwächter, R. Graf, D.E. Demco, H.W. Spiess  
*Heteronuclear Double-Quantum MAS NMR Spectroscopy in Dipolar Solids*, J. Magn. Reson. **139**, 287 (1999)
143. P. Tekely, D.E. Demco, D. Canet, C. Malveau  
*Effects of the proton chemical-shift anisotropy on double-quantum MAS NMR sideband patterns*, Chem. Phys. Lett. **309**, 101 (1999)
144. F. Balibanu, K. Hailu, R. Eymael, D.E. Demco și B. Blümich  
*Nuclear Magnetic Resonance in Inhomogeneous Magnetic Fields*, J. Magn. Reson. **145**, 246 (2000)
145. A. Weismath, C. Filip, D.E. Demco și B. Blümich  
*Double-Quantum Filtered NMR Signals in Inhomogeneous Magnetic Fields*, J. Magn. Reson., **149**, 258 (2001)
146. C. Filip, M. Bertmer, D. E. Demco și B. Blümich  
*Application of the Floquet Theory to Multiple Quantum NMR of Dipolar-Coupled Multi-Spin Systems under Magic Angle Spinning*, Molecular Physics, **99**, 1575 (2001)
147. M. Schneider, D.E. Demco și B. Blümich  
*Proton Residual Dipolar Coupling NMR Images of Strained Elastomers* Macromolecules, **34**, 4019 (2001)
148. C. Filip, M. Bertmer, D.E. Demco și B. Blümich  
*Dipolar and J encoded DQ MAS spectra under rotational resonance* J. Magn. Reson. **150**, 184 (2001)
149. H. Kühn, M. Klein, A. Wiesmath, D.E. Demco, B. Blümich, J. Kelm, P.W. Gold  
*The NMR-MOUSE: quality control of elastomers*, Mag. Reson. Imag., **19**, 497 (2001)
150. A. Weismath, D.E. Demco și B. Blümich  
*NMR of Spin Multipoles in Strongly Inhomogeneous Magnetic Fields*, J. Magn. Reson, **154**, 1 (2002)
151. R. Saalvesberg, D.E. Demco, B. Blümich și S. Stapf  
*Particle motion in gas-fludized granular system by pulsed-field gradient nuclear magnetic resonance*, Phys. Rev. **E 65**, 1123 (2002)
151. X.-H. Ren, M. Bertmer, S. Stapf, D.E. Demco, B. Blümich, C. Kern și A. Jess  
*Deactivation and reactivation of a naphtha reforming catalyst*, Applied Catalyst A, **45**, 246 (2002)

152. R. Fechete, D.E. Demco și B. Blümich  
*Segmental Anisotropy in Strained Elastomers by  $^1\text{H}$  NMR of Multipolar Spin States*, *Macromolecules*, **35**, 6083 (2002)
153. M. Bertmer, L. Gasper, D.E. Demco, B. Blümich și V. Litvinov  
*Investigation of soft component mobility in thermoplastic elastomers using homo- and heteronuclear dipolar filtered  $^1\text{H}$  double-quantum NMR experiments*, *Macromol. Chem. Phys.*, **205**, 83 (2004)
154. V. Litvinov, M. Bertmer, L. Gasper, D.E. Demco și B. Blümich  
*Phase composition of block copoly(ether ester) thermoplastic elastomer studied by solid-state NMR techniques*, *Macromolecules*, **36**, 7598 (2003)
155. M.-F. Wang, M. Bertmer, D.E. Demco, B. Blümich, V. Litvinov, H. Barthel  
*Indication of heterogeneity in chain-segmental order of a PDMS layer grafted onto a silica surface by  $^1\text{H}$  multiple-quantum NMR*, *Macromolecules*, **36**, 4411 (2003)
156. R. Fechete, D. E. Demco și B. Blümich  
*Chain Orientation and Slow Dynamics in Elastomers by Mixed Magic-Hahn Echoes Decays*, *J. Chem. Phys.* **118**, 2411 (2003)
157. R. Fechete, D. E. Demco, B. Blümich, U. Eliav și G. Navon  
*Anisotropy of Collagen Fiber Orientation in Tendon by  $^1\text{H}$  Double-Quantum-Filtered NMR Signals*, *J. Magn. Reson.* **162**, 166 (2003)
158. A. Buda, D.E. Demco, M. Bertmer, B. Blümich, V. M. Litvinov și J.P. Penning  
*General Analytical Description of Spin-Diffusion for a Three Domain Morphology. Application to Melt-Spun Nylon 6 Fibers.*, *J. Phys. Chem. B* **107**, 5357 (2003)
159. A. Buda, D.E. Demco, M. Bertmer, B. Blümich, B. Reining, H. Keul și H. Höcker  
*Domain Sizes in Heterogeneous Polymers by Spin Diffusion Using Single-Quantum and Double-Quantum Dipolar Filters*, *Solid State NMR*, **24**, 39 (2003)
160. K. Hailu, R. Fechete, D.E. Demco și B. Blümich  
*Segmental Anisotropy Induced in Strained Elastomers Detected with a Portable NMR Scanner*  
*Solid State Nucl. Magn. Reson.* **22**, 327 (2002), (issue dedicated to Prof. Hans W. Spiess on the occasion of his 60<sup>th</sup> birthday)
161. M. Klein, R. Fechete, D.E. Demco și B. Blümich  
*Self-Diffusion Measurements by Constant-Relaxation Method in Strongly Inhomogeneous Magnetic Fields*, *J. Magn. Reson.*, **164**, 310 (2003)
162. R. Fechete, D.E. Demco și B. Blümich,  
*Parameter maps of  $^1\text{H}$  residual dipolar couplings in tendon under mechanical load*, *J. Mag. Reson.*, **165**, 9 (2003)

163. R. Fechete, D.E. Demco și B. Blümich,  
*Order parameters of orientation distribution of collagen fibers in tendon by multipolar spin states filtered NMR signals*, NMR in Biomedicine, **16**, 479 (2003)
164. X.-H. Ren, M. Bertmer, H. Kühn, S. Stapf, D.E. Demco, B. Blümich, C. Kern și A. Jess  
 *$^1\text{H}$ ,  $^{13}\text{C}$ , and  $^{129}\text{Xe}$  NMR study of changing pore size and tortuosity during deactivation and decoking of naphtha reforming catalyst in Magnetic Resonance of Colloid and Interface Science*, J. Fraissard, and O. Lapina (Eds.), Kluwer Academic Publishers, Amsterdam (2002)
165. D.E. Demco, R. Fechete și B. Blümich,  
*Residual dipolar couplings of soft solids by accordion magic sandwich*, Chem. Phys. Lett., **375**, 406 (2003)
166. R. Fechete, D.E. Demco și B. Blümich,  
*Self-diffusion anisotropy of small penetrants in compressed elastomers* Macromolecules, **36**, 7155 (2003)
167. M.-F. Wang, M. Bertmer, D.E. Demco și B. Blümich  
*Segmental and local chain mobilities in elastomers by  $^{13}\text{C}$ - $^1\text{H}$  residual heteronuclear dipolar couplings*, J. Phys. Chem. B **108**, 10911 (2004)
168. R. Fechete, D.E. Demco, B. Blümich,  
*Enhanced sensitivity to residual dipolar couplings of elastomers by higher-order multiple-quantum NMR*, J. Magn. Reson., **169**, 19 (2004)
169. A. Buda, D.E. Demco, B. Blümich, V. M. Litvinov și J.P. Penning  
*Complex morphology of melt-spun Nylon 6 fibers investigated by  $^1\text{H}$  double-quantum-filtered NMR spin-diffusion experiments*, ChemPhysChem, **5**, 876 (2004)
170. B. Jagadeesh, A. Prabhakar, A. Buda, D.E. Demco și B. Blümich  
*Surface induced order and dynamic heterogeneity in ultra thin polymer films: A  $^1\text{H}$  multiple-quantum NMR study*, Chem. Phys. Lett. **404**, 177 (2005)
171. A. Buda, D.E. Demco, B. Jagadeesh și B. Blümich  
*Molecular dynamic heterogeneity of confined lipid films by  $^1\text{H}$  magnetization-exchange NMR*, J. Chem. Phys. **122**, 034701 (2005)
172. B. Jagadeesh, A. Prabhakar, A. Buda, D.E. Demco și B. Blümich  
*Surface and confinement induced molecular dynamics of thin lipid films: A  $^1\text{H}$  multiple-quantum NMR study*, Chem. Phys. Lett. **393**, 416 (2004)
173. M.A. Voda, D.E. Demco, J. Perlo, R.A. Orza și B. Blümich  
*Multispin moments edited by multiple-quantum NMR. Application to elastomers* J. Magn. Reson. **172**, 98-109 (2004)



174. D.E. Demco, G. Rata, R. Fechete, B. Blümich  
*Self-diffusion anisotropy of small penetrant molecules in deformed elastomers*  
Macromolecules, **38**, 5647 (2005)
175. R. Fechete, D.E. Demco, B. Blümich  
*Self-diffusion of water in sheep Achilles tendon*, NMR in Biomedicine 18, 577 (2005)
176. M. Bertmer, Mingfei Wang, D.E. Demco, B. Blümich  
*Segmental mobility in short-chain grafted-PDMS by homo- and heteronuclear residual dipolar couplings*, Solid State Nucl. Magn. Reson. **30**, 45 (2006)
177. A. Voda, K. Beck, T. Schaubert, M. Adler, T. Dabish, M. Beshar, M. Viol, D.E. Demco, B. Blümich  
*Investigation of soft segments of thermoplastic polyurethane investigated by NMR, differential scanning calorimetry and rebound resilience*, Polymer Testing, **25**, 203 (2006)
178. A. Voda, M. Voda, K. Beck, T. Schaubert, M. Adler, T. Dabish, M. Beshar, M. Viol, D.E. Demco, B. Blümich  
*Segmental orientation of thermoplastic polyurethane investigated by  $^1\text{H}$  double-quantum NMR. Correlation with thermodynamic and mechanical properties*, Polymer, **47**, 2069 (2006)
179. M. Bertmer, D.E. Demco, Mingfei Wang, C. Melian, R. I. Mercean-Chelcea, R. Fechete, M. Baias, B. Blümich  
*Segmental dynamics heterogeneity of short-chain grafted-poly(dimethylsiloxane) by  $^1\text{H}$  spin-diffusion NMR*, Chem. Phys. Lett. **431**, 404 (2006)
180. M. Voda, D.E. Demco, A. Voda, T. Schaubert, M. Adler, T. Dabish, A. Adams, M. Baias, B. Blümich  
*Morphology of thermoplastic polyurethanes by  $^1\text{H}$  spin-diffusion NMR*  
Macromolecules, **39**, 4802 (2006)
181. A. Adams Buda, D.E. Demco, M. Bertmer, B. Blümich  
*Multiple-quantum NMR on structure, orientation, morphology and dynamics of polymers, biomolecules and ordered tissues*, C.R. Chimie, **9**, 346 (2006)
182. A.M. Akimbaeva, E.E. Ergozihin, B. Blümich, D.E. Demco  
*Diagnostics of porous structure and assessment of catalytic activity of natural zeolite in styrene polymerization reaction*, Petroleum Chemistry, **46**, 182-190 (2006)
183. X. Zhu, M. Jaumann, K. Peter, M. Möller, C. Melian, A. Adams-Buda, D.E. Demco, B. Blümich  
*One-pot synthesis of hyperbranched polyethoxysiloxanes*, Macromolecules, **39**, 1701 (2006)

184. C. Hedesiu, R. Kleppinger, D.E. Demco, A. Buda, B. Blümich, K. Remerie, V. Litvinov  
*The effect of temperature and annealing on the phase composition, molecular mobility and the thickness of domains in high-density polyethylene using proton solid-state NMR*, Polymer, **48**, 763 (2007)
185. C. Hedesiu, D.E. Demco, R. Kleppinger, G. Vanden Poel, W. Gijssbers, B. Blümich, K. Remerie, V. Litvinov  
*The effect of temperature and annealing on the phase composition, molecular mobility and the thickness of domains in isotactic polypropylene using proton solid-state NMR, SAXS, and DSC*, Macromolecules, **40**, 3977, (2007)
186. D.E. Demco, V. Litvinov, G. Rata, C. Popescu, Kim-Ho Phan, A. Schmidt, B. Blümich  
*Investigation of thermal aging of polyamide 4,6 by  $^1\text{H}$  solid-state NMR*, Macromol. Chem. Phys., **208**, 2085 (2007).
187. S. Gandhi, C. Melian, D.E. Demco, A.S. Brar, Blümich  
*Morphology and motion heterogeneity in PS/PMMA diblock copolymers studied by  $^1\text{H}$  and  $^{13}\text{C}$  solid-state NMR spectroscopy*, Macrom. Chem. Phys. **209**, 1576 (2008)
188. N.O. Goga, D.E. Demco, J. Kolz, R. Ferencz, F. Casanova, B. Blümich  
*Surface UV aging of elastomers investigated with microscopic resolution by single-sided NMR*, J. Magn. Reson. **192**, 1 (2008)
189. C. Hedesiu, D.E. Demco, J. van der Weerd, B. Blümich, K. Remerie, V.M. Litvinov  
*Study of uniaxially stretched isotactic polypropylene by  $^1\text{H}$  solid state NMR and IR spectroscopy*, Macrom. Chem. Phys. **209**, 124 (2008)
190. D.E. Demco, M. Baias, I. Collichio, B. Blümich, M. Möller  
*Proton exchange in hybrid sulfonated poly(ether ether ketone)-silica membranes by  $^1\text{H}$  solid-state NMR*, Chem. Phys. Lett. **456**, 227 (2008)
191. C. Popescu, P. Budrugaec, F-J Wortmann, L. Miu, D.E. Demco, M. Baias  
*Assessment of collagen-based materials that are supports of cultural and hystorical objects*, Polym. Deg. Stability **93**, 976 (2008)
192. R.I. Chelcea, R. Fechete, E. Culea, D.E. Demco, B. Blümich  
*Distribution of transverse relaxation times for soft-solids measured in strongly inhomogeneous magnetic fields*, J. Magn. Reson. **196**, 178 (2009)
193. C. Hedesiu, D.E. Demco, R. Kleppinger, G.V. Poel, K. Remerie, V.M. Litvinov B. Blümich, R. Steenbakkens  
*Aging effects on the phase composition and chain mobility of isotactic poly(propylene)* Macrom. Materials and Engeneering **293**, 847 (2008)
194. Q Dou, X. Zhu, K. Peter, D.E. Demco, M. Möller, C. Melian  
*Preparation of polypropylene/silica composites by in-situ sol-gel processing using hyperbranched polyethoxysiloxane*, J. Sol-Gel Sci. Technol. **48**, 51 (2008)

195. M. Gal, C. Melian, D.E. Demco, B. Blümich, L. Frydman  
*Solid-state single-scan 2D NMR under magic-angle-spinning*, Chem. Phys. Lett. **459**, 188 (2008)
196. M. Baias, D.E. Demco, C. Popescu, R. Fecete, C. Melian, B. Blümich, M. Möller  
*Thermal denaturation of keration fibers investigated by  $^1\text{H}$  solid-state NMR*  
J. Phys. Chem. **B 113**, 2184 (2009)
197. M. Baias, D.E. Demco, B. Blümich, M. Möller  
*State of water in hybrid sulfonated poly(ether ether ketone)-silica membranes by  $^1\text{H}$  solid-state NMR*, Chem. Phys. Letters, **473**, 142 (2009)
198. M. Weingarth, D.E. Demco, G. Bodenhausen, P. Tekely  
*Improved magnetization transfer in solid-state NMR with fast magic angle spinning*  
Chem. Phys. Letters, **469**, 342 (2008)
199. I. Colicchio, D.E. Demco, M. Baias, H. Keul, M. Möller  
*Influence of the silica content in SPEEK-silica membranes prepared from the sol-gel process of polyethoxysiloxane: morphology and proton mobility*  
J. Membrane Science, **337**, 125 (2009)
200. D. Moldovan, R. Fecete, D.E. Demco, E. Culea, B. Blümich  
*Monte-Carlo Simulations of the two-dimensional NMR  $T_2$ - $T_2$  exchange of fluids in porous media*, Diffusion Fundamentals **10**, 1 (2009)
201. R. Fecete, D. Moldovan, D.E. Demco, B. Blümich  
*Laplace inversions applied to multi-component  $T_2$ - $T_2$  exchange experiments*  
Diffusion Fundamentals **10**, 141 (2009)
202. M. Baias, D.E. Demco, D. Istrate, C. Popescu, B. Blümich, M. Möller  
*Morphology and molecular mobility of fibrous hard  $\alpha$  - kerations by  $^1\text{H}$ ,  $^{13}\text{C}$ , and  $^{129}\text{Xe}$  NMR*, J. Phys. Chem. B, **113**, 12136 (2009)
203. C. Melian, D.E. Demco, M. Istrate, A. Balaceanu, D. Moldovan, R. Fecete, C. Popsescu, M. Möller  
*Morphology and side-chain dynamics in hydrated hard  $\square$ -keratin fibres by  $^1\text{H}$  solid-state NMR*, Chem. Phys. Lett. **480**, 300 (2009)
204. D. Moldovan, R. Fecete, D.E. Demco, E. Culea, B. Blümich, V. Herrmann, M. Hienz  
*Heterogeneity of nanofiled EPDM elastomers investigated by inverse Laplace transform  $^1\text{H}$  NMR relaxometry and rheometry*, Macrom. Chem. Phys. **211**, 1579 (2010)
205. S. Schachschal, A. Balaceanu, C. Melian, D.E. Demco, T. Eckert, W. Richtering, A. Pich  
*Polyampholyte microgels with anionic core and cationic shell*, Macromolecules, **43**, 4331 (2010)

206. X. Zhu, C. Melian, Q. Dou, K. Peter, D.E. Demco, M. Möller, D. Anokhin, J.-M. Le Meins, D. A. Ivanov  
*Morphology of injection-molded isotactic polypropylene/silica composites prepared via in-situ sol-gel technology*, *Macromolecules*, **43**, 6067 (2010)
207. D.E. Demco, C. Melian, J. Simmelink, V.M. Litvinov, M. Möller  
*Structure and dynamics of drawn gel-spun ultra-high molecular weight polyethylene fibres by  $^1\text{H}$ ,  $^{13}\text{C}$ , and  $^{129}\text{Xe}$  NMR*, *Macrom. Chem. Phys.* **211**, 2611 (2010)
208. D. Moldovan, R. Fechete, D.E. Demco, E. Culea, B. Blümich, V. Herrmann, M. Hienz  
*The heterogeneity of segmental dynamics of filled EPDM elastomers investigated by  $^1\text{H}$  transverse relaxation NMR*, *J. Magn. Reson.* **208**, 156 (2011)
209. A. Balaceanu, D.E. Demco, M. Möller, A. Pich  
*Heterogenous morphology of homopolymer microgels reflected in temperature-induced volume transition*, *Macromolecules*, **44**, 2161 (2011)
210. L. Utiu, C. Filipoi, D.E. Demco, X. Zhu, R. Vinokur, O. Conradi, A. Graichen, B. Blümich, M. Möller  
*Free volume of perfluorosulfonate acid/SiO<sub>2</sub> membranes by  $^{129}\text{Xe}$  NMR*  
*Chem. Phys. Letters*, **506**, 71 (2011)
211. D.E. Demco, L. Utiu, W. Teelman, M. Möller, C. Popescu  
*Morphology and side-chain dynamics in alpha-keratins nails under pressure by  $^1\text{H}$  and  $^{13}\text{C}$  solid-state NMR*, *Chem. Phys. Letters*, **509**, 62 (2011)
212. A. Balaceanu, D.E. Demco, M. Möller, A. Pich  
*Heterogenous morphology of heteropolymer microgels reflected in temperature-induced volume transition and  $^1\text{H}$  high-resolution transverse relaxation NMR*  
*Macrom. Chem. Phys.*, **212**, 2467 (2011)
213. V.M. Litvinov, J. Xu, C. Melian, D.E. Demco, M. Möller, J. Simmelink  
*Morphology, Chain Dynamics and Domain Sizes in Gel-Spun Ultra-High Molecular Weight Polyethylene Fibers at Final Stages of Drawing by SAXS, WAXS, and  $^1\text{H}$  Solid-State NMR*, *Macromolecules*, **44**, 9254 (2011)
214. A. Balaceanu, V. Mallorga, W. Lin, M. Schürings, D. E. Demco, A. Böker, M. A. Winnik, A. Pich  
*Copolymer Microgels by Precipitation Polymerisation of N-Vinylcaprolactam and N-Isopropylacrylamides in Aqueous Medium*, *Colloid Polym. Sci.*, **291**, 21-31 (2013)
215. C. Filipoi, D. E. Demco, X. Zhu, R. Vinokur, O. Conradi, R. Fechete, M. Möller  
*Channel orientation anisotropy by water self-diffusion NMR in perfluorosulfonic acid/SiO<sub>2</sub> nanocomposite proton exchange membranes*  
*Chem. Phys. Lett.* **513**, 251 (2011)
216. A. Balaceanu, D.E. Demco, A. Pich  
*Responsive copolymer microgel morphology*, *Proc. Roum. Acad. A* **12**, 296 (2011)

217. L. Utiu, D.E. Demco, M. Möller, C. Popescu  
*Morphology and molecular dynamics of hard -keratin micro- tubes by  $^1\text{H}$  and  $^{13}\text{C}$  solid-state NMR*, Chem. Phys. Lett. **517**, 86 (2011)
218. C.I. Horvat, X. Zhu, D. Türp, R.A. Vinokur, D.E. Demco, R. Fecete, O. Conradi, A. Graichen, D. Anokhin, D.A. Ivanov, M. Möller  
*Perfluorosulfonic acid ionomer-silica composite membranes prepared using hyperbranched polyethoxysiloxane for polymer electrolyte membrane fuel cells*  
Journal of Hydrogen Energy **37**, 14454 (2012)
219. C. Filipoi, D. E. Demco, X. Zhu, R. Vinokur, O. Conradi, R. Fecete, M. Möller  
*Water self-diffusion anisotropy and electrical conductivity of perfluorosulfonic acid/SiO<sub>2</sub> composite proton exchange membranes*, Chem. Phys. Lett. **554**, 143 (2012)
220. P. Das, T. Heuser, A. Wolf, B. Zhu, D.E. Demco, S. Ifuku, A. Walter  
*Tough and catalytically active hybrid biofibers wet-span from nanochitin hydrogel*  
Biomacromolecules, **13**, 4205 (2012)
221. Q. Zhang, B.M. Liebeck, K. Yan, D.E. Demco, A. Körner, C. Popescu  
*Alpha-helix self-assembly of oligopeptides originated from beta-sheet keratin*  
Macrom. Chem. Phys. **213**, 2628 (2012)
222. D. E. Demco, A.-M. Oros-Peusquens, L. Utiu, R. Fecete, B. Blümich, N. J. Shah  
*Molecular dynamics parameter maps by  $^1\text{H}$  Hahn echo and mixed-echo phase-encoding MRI*, J. Magn. Reson. **227**, 1 (2013)
223. A. Balaceanu, Y. Verkh, D.E. Demco, M. Möller, A. Pich  
*Correlated morphological changes in the volume temperature transition of core-shell microgels*  
Macromolecules, **46**, 4882-4891 (2013); DOI: dx.doi.org/10.1021/ma400495y
224. D.E. Demco, C. Filipoi, X. Zhu, R. Fecete, M. Möller  
*Morphological heterogeneity by diffusional kurtosis of perfluorosulfonic acid/SiO<sub>2</sub> composite proton exchange membranes*  
Macrom. Chem. Phys., **214**, 1345-1355 (2013); DOI: 101002/macp.201300039.
225. G. Merle, C.I. Filipoi, D.E. Demco, M. Saakes, S.S. Hosseiny  
*Friedel-Crafts crosslinked highly sulfonate poly(ether-ether-sulfone) (SPEEK) membranes for Vanadium/Air Redox flow battery*  
Membranes (Basel) **4** (1), 1-19 (2013); doi:10.3390/membranes4010001
226. Q. Dou, K. Peter, D.E. Demco, J. Wang, A. Mourran, M. Jaumann, M. Möller  
*Preparation and application of poly(alkoxytitanate) as a TiO<sub>2</sub> precursor with high storage stability*, Journal of Sol-Gel Science and Technology, **69**, 528-535 (2014)
227. C.-M. Popescu, D.E. Demco, M. Möller  
*Assessment of historic Tilia codrata wood by solid-state  $^{13}\text{C}$  CPMAS NMR spectroscopy*, Polymer Degradation and Stability, **98** (12), 2730-2734 (2013)

228. R. Fechete, D.E. Demco, X. Zhu, W. Tillmann, M. Möller  
*Water states and dynamics in perfluorinated ionomer membranes by <sup>1</sup>H one- and two-dimensional NMR spectroscopy, relaxometry, and diffusometry*  
Chem Phys. Letters, **597**, 6-15 (2014)
229. Y. Zhao, Y. Li, D.E. Demco, X. Zhu, M. Möller  
*Microencapsulation of hydrophobic liquids in closed all-silica colloidosomes*  
Langmuir, **30**, 4253-4261 (2014)
230. A. Balaceanu, S. Singh, D.E. Demco, M. Möller  
*Morphology and interaction parameters of stimuli-sensitive native  $\alpha$ -elastin biohybrid microgel*, Chem. Phys. Letters, **612**, 182-189 (2014)
231. B. Schultz, K. Rahimi, H. Keul, D.E. Demco, A. Walther, M. Möller  
*Blending of Reactive Prepolymers for Adjusting Morphology and Polarity of Polyglycidol Based Microgels*, Soft Matter, **11**, 943-953 (2015)
232. P. Das, J.-M. Malho, K. Rahimi, F. Schacher, B. Wang, D.E. Demco, A. Walter  
*Nacre-Mimetics with Synthetic Nanoclays up to Ultrahigh Aspect Ratio*  
Nature Communication, **6**, 5967-5971, (2015) DOI: 10.1038/ncomms6967
233. S. Singh, D.E. Demco, K. Rahimi, R. Fechete, J.C. Rodriguez-Cabello, M. Möller  
*Coacervation of Elastin-Like Recombinamer Microgels*  
Macromolecular Rapid Communications, **37**, 181-186, (2016); DOI: 10.1002/marc.201500457 (2015).
234. S. Singh, D.E. Demco, K. Rahimi, R. Fechete, J.C. Rodriguez-Cabello, M. Möller  
*Aggregation behaviour of biohybrid microgels from elastin-like recombinamer*  
Soft Matter, **12** (2016) 6240-6252; DOI: 10.1039/c6sm0095a
235. A. Dolgoplov, K.N. Grafksaia, D.V. Anokhin, D.E. Demco, X. Zhu, D. A. Ivanov, M. Möller  
*Humidity-induced formation of water channels in supramolecular assemblies of wedge-shaped amphiphile: effect of molecular architecture on channel topology*  
Chem.Phys.Phys.Chem **19** (2017) 7714-7720.
236. D. Istrate, M. Er Rafic, C. Popescu, D.E. Demco, L. Tsarkova, F.-J. Wortmann  
*Keratin made micro-tubes: the paradoxical thermal behavior of cortex and cuticle*  
International Journal of Biological Macromolecules, **89** (2016) 592-598; DOI: 10.1016/j.ijbiomac.2016.05.035
237. P. Kensbock, D. E. Demco, S. Singh, K. Rahimi, R. Fechete, A. Walter, A. M. Schmidt, M. Möller  
*Peptizing mechanism at the molecular level of Laponite nanoclay gels*  
Langmuir **33** (2017), 66-74, DOI: 10.102/acs.langmuir.6b03592
238. S. Schweizerhof, D. E. Demco, A. Mourran, H. Keul, R. Fechete, M. Möller  
*Temperature-Induced Phase Transition Characterization of Responsive Polymer Brushes Grafted onto Nanoparticles*  
Macrom. Chem. Phys. **218** (2017) 1600495 (1 of 11)

239. E. Jumate, D. Moldovan, D.L. Manea, D.E. Demco, R. Fechete  
*The effects of cellulose ethers and limestone fillers in Portland cement-based mortars by  $^1\text{H}$  NMR relaxometry*, Appl. Magn. Reson. **47** (2016) 1353-1373
240. R.S. Sipos, R. Fechete, D. Moldovan, I. Sus, Z. Pavai, D.E. Demco  
*Ovariectomy-induced osteoporosis evaluated by  $^1\text{H}$  one- and two-dimensional NMR transverse relaxometry*, Appl. Magn. Reson. **47** (2016) 1419-1437
241. S. Schweizerhof, D. E. Demco, A. Mourran, H. Keul, R. Fechete, M. Möller  
*Thermodynamic Parameters of Temperature-Induced Phase Transition of Brushes onto Nanoparticles: Hydropil versus Hydrophob End-Groups Functionalization*  
Macrom. Rapid Commun. **38** (2017) 1700362 (1 of 6)
242. S. Schweizerhof, D. E. Demco, A. Mourran, R. Fechete, M. Möller  
*Polymers Diffusivity Encoded by Stimuli-Induced Phase Transition: Theory and Application Thermodynamic Parameters of Temperature-Induced Phase Transition of Brushes onto Nanoparticles: Hydropil versus Hydrophob End-Groups Functionalization*, Macrom. Chem. Phys. **219** (2018) 1700587 (1 of 12)
243. Kok H. Tan, D. E. Demco, R. Fechete, A. Pich  
*Functional selenium modified microgels: temperature-induced phase transitions and network morphology*, Soft Matter **15** (2019) 3227-3240
244. E. Izak-Nau, D. E. Demco, S. Barun, C. Baumann, A. Pich, R. Göstl  
*Shear-Induced Structural and Functional Transformations of Poly(N-vinylcaprolactam) Microgel*, ACS Appl. Polym. Mater. **2** (2020) 1682-1691
245. T. Fisher, D. E. Demco, R. Fechete, M. Möller, S. Singh  
*Poly(vinylamine-co-N-isopropylacrylamide) linear polymer and hydrogels with tuned thermoresponsivity*, Soft Matter **16** (2020) 6549-6562
246. E. V. Selezneva, A. V. Bakirov, N. G. Sedush, A. V. Bystrova, S. N. Chvalun, D. E. Demco, M. Möller  
*How Shape Memory Effects can Contribute to Improved Self-Healing Properties in Polymer Materials*, Macromolecules, **54** (2021) 2506-2517
247. L. Hussmann, T. Belthle, D. E. Demco, R. Fechete, A. Pich  
*Stimuli-responsive microgels with cationic moieties: Characterization and interaction with E. coli cells*, Soft Matter **17** (2021) 8678-8692.
248. T. Belthle, D. E. Demco, A. Pich  
*Nanostructuring the Interior of Stimuli-Responsive Microgels by N-Vinylimidazoles Quaternized with Hydrophobic Alkyl Chains*  
Macromolecules DOI: [org/10.1021/acs.macrom.1c02276](https://doi.org/10.1021/acs.macrom.1c02276) (2022)
249. S. Braun, M. Santi, D. E. Demco, A. Pich  
*Stimuli-Sensitive Microgels with Supramolecular and Covalent Networks*  
Macromolecules, will be submitted (2022)