

Publikationen

- 1980 -

- 1) Kremer, F.; L. Genzel and F. Drissler
"Temperature Dependence of Millimeter Wave Absorption in Biological Cells"
Proceedings of the Symposium URSI "Ondes Electromagnetic et Biologie", Jouy-en-Josas, Juillet 31-32 (1980)

- 1981 -

- 2) Kremer, F.
"Zur Steuerung der Abflugmagenfüllung bei der Honigbiene (*apis mellifica*)"
Zoo. Jb. Physiol. **85**, 249-265 (1981)
- 3) Genzel, L., F. Kremer, L. Santo and S.C. Chen
"Spectroscopic Determination of the Low-Frequency Dynamics of Biological Polymers and Cells"
ACS Symposium Series No. 157 Biological Effects of Nonionizing Radiation. K.H. Illinger, (Ed.) 83-94 (1981)
- 4) Izatt, J.R. and F. Kremer
"Millimeter Wave Measurement of Both Parts of the Complex Index of refraction using an Untuned Cavity Resonator"
Applied Optics **20**, 14, 2555-2559 (1981)
- 5) Kremer, F. and J.R. Izatt
"Millimeter Wave Absorption Measurements in Low-loss Dielectrics Using an Untuned Cavity Resonator"
International Journal of Infrared and Millimeter Waves **2**, No.4, 675-694 (1981)

- 1982 -

- 6) Kremer, F. and L. Genzel (invited paper)
"Application of Untuned Cavities for Millimeter Waves Spectroscopy"
Proc. 6. Int. Conf. Infrared and Millimeter Waves, Miami Beach, Fl. 1981. Ed. K.J. Button, IEEE New York, IEEE Cat. No. 1645-1 MTT, paper T 1-4 (1981)

- 1983 -

- 7) Kremer, F. (invited paper)
"Broadband mm-Wave-Spectroscopy on Biological Samples"
in: Biological Effects and Dosimetry of Nonionizing Radiation, (M. Grandolfo, S.M. Michaelson and A. Rindi, Eds.) Plenum Publishing Corp., 233-250 (1983)
- 8) Kremer, F.; C. Koschnitzke, L. Santo, P. Quick and A. Poglitsch
"The Non-Thermal Effect of Millimeter Wave Radiation on the Puffing of Giant Chromosomes"
In: Coherent Excitations in Biological Systems. .(H. Fröhlich and F. Kremer, Eds.), Springer Verlag, Berlin, Heidelberg, New York, Tokyo, 10-20 (1983)
- 9) Bandekar, J., L. Genzel, F. Kremer and L. Santo
"The temperature-dependence of the far Infrared Spectra of L-alanine"
Spectrochimica Acta **39A**, No.4, 357-366 (1983)
- 10) Genzel, L.; F. Kremer, A. Poglitsch and G. Bechthold
"Millimeter-wave and Far-Infrared Spectroscopy on Biological Macromolecules"
In: Coherent Excitation in Biological Systems, (H. Fröhlich and F. Kremer, Eds.), Springer Verlag, Berlin, Heidelberg, New York, Tokyo, 58-70 (1983).
- 11) Genzel, L.; F. Kremer, A. Poglitsch and G. Bechthold
"Relaxation Processes on a Picosecond Time Scale in Haemoglobin and Poly- (L-Alanine) Observed by Millimeter Wave Spectroscopy"
Biopolymers **22**, 1715-1729 (1983)
- 12) Kremer, F.; C. Koschnitzke, L. Santo, P. Quick and A. Poglitsch
"The Non-Thermal Effect of Millimeter-Wave Radiation on the Puffing of Giant Chromosomes"
Proceedings of the 13th European Microwave Conference, 859-864 (1983)
- 13) Koschnitzke, C.; F. Kremer, L. Santo, P. Quick and A. Poglitsch
"A Non-Thermal Effect of Millimeter Wave Radiation on the Puffing of Giant Chromosomes"
Z. Naturforsch **38c**, 883-886 (1983)
- 14) Birch, J.R.; G. Bechthold, F. Kremer and A. Poglitzch
"The use of an untuned cavity for broad band near millimetre wavelength absorption measurements on low loss solids"
NPL Report DES **79**, Nov.1983

- 1984 -

- 15) Genzel, L.; F.Kremer, A. Poglitsch, G. Bechthold, K. Menke and S. Roth
"Millimeter Wave and Far-Infrared Conductivity of Iodine and AsF₅ - doped Polyacetylene"
Phys. Rev. B. **29**, No.8, 4594-4601 (1984)
- 16) Kremer, F.; A. Poglitsch, D. Böhme and L. Genzel
"The Application of Oversized Cavities for Millimeter-Wave Spectroscopy"
Infrared and Millimeter Waves **11**, Chapt. 4, 141-177 (1984)
- 17) Genzel, L.; F. Kremer, A. Poglitsch and G. Bechthold
"Picosecond relaxations in haemoglobin, lysozyme and poly-l-alanine observed by millimeter-wave-spectroscopy"
In: *Spectroscopy of Biological Molecules* (C. Sandorfy and T. Theophanides (Eds.)) 621-635 (1984)
- 18) Poglitsch, A.; F. Kremer and L. Genzel
"Picosecond Relaxations in Hydrated Lysozyme Observed by Millimeter-Wave-Spectroscopy"
J. Mol. Biol. **173**, 137-142 (1984).
- 19) Kremer, F.; A. Poglitsch and L. Genzel (invited paper)
"Picosecond relaxations in proteins and biopolymers observed by millimeter-wave-spectroscopy"
In: *Nonlinear electrodynamics in biological systems* (W.R. Adey and A.F. Lawrence, Eds.), Plenum Publishing Corporation, New York, 177-186 (1984).
- 20) Kremer, F.
"Biologische Effekte Elektromagnetischer Felder"
Umschau **13**, 402-403 (1984).

- 1985 -

- 21) Nie, C.S.; F. Kremer, A. Poglitsch, G. Bechthold and L. Genzel
"Picosecond relaxations in Hydrated Polyamid-6 Observed by Millimeter-Wave-Spectroscopy"
J. of Polymer Science, Polymer Physics Edition **23**, 1247-1254 (1985)
- 22) Kremer, F.; A. Poglitsch, L. Santo, D. Sperber and L. Genzel
"The Influence of Low-Intensity Millimeter-Wave Radiation on the Growth of Cress Roots"
Z. Naturforsch. **40c**, 336-343 (1985)

- 1986 -

- 23) Kremer, F. and L. Santo
"Thermal, non-thermal and resonant effects of low-intensity millimeter-waves on biological systems"
Mikrowellen Magazin **12**, No. 1, 51-58 (1986)
- 24) Koschnitzke, Chr.; F. Kremer, L. Santo, A. Poglitsch and L. Genzel
"Broadband, Non-Thermal Millimeter-Wave Influence on Giant Chromosomes"
Z. Naturforsch. **41c**, 321-324 (1986).
- 25) Hässeler, S.; A. Poglitsch, L. Genzel and F. Kremer
"Picosecond Relaxations in Model Substances for Proteins: A Millimeter-Wave Investigation on Crystalline Alkyl Amides"
Biopolymers **25**, 677-691 (1986).
- 26) Wittlin, A.; L. Genzel, F. Kremer, S. Hässeler and A. Poglitsch
"Far-infrared spectroscopy on oriented films of dry and hydrated DNA"
Phys. Rev A **34**, 13, 493-500 (1986)

- 1987 -

- 27) Kremer, F.
"Mikrowellen, eine Gefahr für die Umwelt?"
Spektrum der Wissenschaft **1**, 13-14 (1987)
- 28) Ulanski, J.; D.T. Glatzhofer, M. Przybylski, F. Kremer, A. Gleitz and G. Wegner
"Frequency/temperature response of conductivity in poly(p-styrene sulphonate) salts of poly-pyrrole"
Polymer **28**, 859-862 (1987)
- 29) Powell, J.W.; G.S. Edwards, L. Genzel, F. Kremer, A. Wittlin, W. Kubasek and W. Petricolas
"Investigation of far-infrared vibrational modes in polynucleotides"
Phys. Rev. A **35**, 9, 3929-3939 (1987)
- 30) Rühe, J.; C. Kröhnke, T.A. Ezquerra, F. Kremer and G. Wegner
"Conducting Polymers from 3,4-Disubstituted Polypyrroles"
Ber. Bunsenges. Phys. Chem. **91**, 885-888 (1987)

- 1988 -

- 31) Kremer, F.; T.A. Ezquerra, M. Mohammadi, W. Bauhofer, T.D. Vilgis and G. Wegner
"Dynamic percolation in an insulator-conductor composite Polyethyleneoxide-Polypyrrole, as studied by A. C. conductivity measurements"
Solid State Communication **66**, No. 2, 153-157 (1988)

- 32) Ulanski, J.; M. Krzszewski, A. Tracz and F. Kremer
 "Temperature dependence of A.C. conductivity in polymer/organic metal systems"
Synthetic Metals **24**, 89-94 (1988)
- 33) Ezquerra, T.A.; M. Mohammadi, F. Kremer, T. Vilgis and G. Wegner
 "On the percolative behaviour of polymeric insulator-conductor composites: polyethylene-oxide-polypyrrole"
J. Phys. C: Solid State Phys. **21**, 927-941 (1988)
- 34) Boese, D.; F. Kremer and L.J. Fetters
 "Molecular dynamics in linear-and star-branched polymers of cis-polyisoprene as studied by dielectric spectroscopy"
Makromol. Chem. Rapid Commun. **9**, 367-371 (1988)
- 35) Kremer, F.; L. Santo, A. Poglitsch, C. Koschnitzke, H. Behrens and L. Genzel
 "The influence of low intensity millimetre waves on biological systems"
 In "Biological coherence and Response to External Stimuli: H. Fröhlich (Ed.), 86-1101, (1988) Springer Verlag, Berlin, Heidelberg, New York, Tokyo
- 36) Kremer, F.; A. Mason and D. Böhme
 "A novel sample-preparation technique for infrared and far-infrared spectroscopy"
Journ. of Electrostatics **21**, 145-149 (1988)

- 1989 -

- 37) Kremer, F.; S.U. Vallerien, R. Zentel and H. Kapitza
 "Broad-band dielectric spectroscopy on a set of combined main-chain side-group liquid-crystalline polymers"
Macromolecules **22**, No.10, 4040-4045 (1989)
- 38) Boese, D.; B. Momper, G. Meier, F. Kremer, J.U.Hagenah and E.W. Fischer
 "Molecular Dynamics in Poly(methylphenylsiloxane) (PMPS) as studied by dielectric relaxation spectroscopy and quasielastic light scattering"
Macromolecules **22**, 4416-4421 (1989)
- 39) Vallerien, S.U.; F. Kremer, B. Hüser and H.W. Spiess
 "Broadband dielectric spectroscopy on a discotic liquid crystalline polymer"
Colloid & Polym. Sci. **267**, 583-586 (1989)
- 40) Vallerien, S.U.; F. Kremer and C. Boeffel
 "Broadband dielectric spectroscopy on side group liquid crystal polymers"
Liquid Crystals **4**, 79-86 (1989)
- 41) Kremer, F.; L. Dominquez, W.H. Meyer and G. Wegner
 "Thermal and dielectric properties of glassy ionenes"
Polymer **30**, 2023-2029 (1989)
- 42) Vallerien, S.U.; F. Kremer, H. Kapitza, R. Zentel and W. Frank
 "Field dependent Soft and Goldstone mode in a ferroelectric liquid crystal as studied by dielectric spectroscopy"
Physics Letters A **138**, No. 4-5, 219-222 (1989)
- 43) Ezquerra, T.A.; F. Kremer, M. Mohammadi, J. Rühe and G. Wegner
 "A.C. conductivity measurements in polymeric insulator conductor systems"
Synthetic Metals **28**, C83-C88 (1989)
- 44) Rühe, J.; T.A. Ezquerra, M. Mohammadi, V. Enkelmann, F. Kremer and G. Wegner
 "Evidence for hopping conduction in salts of poly(pyrrole), substituted polypyroles and their composites"
Synthetic Metals **28**, C217-C223 (1989)
- 45) Kremer, F.; D. Boese, G. Meier and E.W. Fischer
 "Broadband Dielectric Spectroscopy on the Molecular Dynamics in Polymer Model-Systems:
 Polyphenylmethylsiloxane and Linear and Star-branched Poly(cis-1,4-isoprene)"
Progress in Colloid and Polymer Science **80**, 129-139 (1989)
- 46) Vallerien, R.; Zentel, F. Kremer, H. Kapitza and E.W. Fischer
 "Ferroelectric modes in combined side-group main chain liquid-crystalline polymers"
Makromol. Chem. Rap. Commun. **10**, 333-338 (1989)
- 47) Klee, J.; H.H. Hörrhold and F. Kremer
 „Polykationen auf Basis von Epoxid-Amin-Additionspolymeren, Herstellung und Eigenschaften"
Makromol. Chem. **190**, 3055-3060 (1989)
- 48) Hanus, K.H.; H. Kapitza, F. Kremer, G. Reckert, S.U. Vallerien and R. Zentel
 "Synthesis, structure and properties of functionalized liquid crystalline polymers"
Polymer Prepr. **30**, 493-494 (1989)
- 49) Vallerien, S.U.; R. Zentel, F.Kremer, H. Kapitza and E.W.Fischer
 "Field dependent Goldstone-mode in ferroelectric liquid crystalline polymers"
 Proceedings of the 2. FLC in Göteborg
 appeared in „*Ferroelectrics*“(1989)

- 50) Klee, J.; H.H. Hörrhold and F. Kremer
"Hochmolekulare Polykation vom Michler-Hydroblau-Typ und ihre dielektrische Charakterisierung"
Makromol. Chem. **191**, 783-790 (1990)
- 51) Boese, D. and F. Kremer
"Molecular Dynamics in bulk cis-polyisoprene as studied by dielectric spectroscopy"
Macromolecules **23**, 829-835 (1990)
- 52) Boese, D.; F. Kremer and L.J. Fetters
"Molecular dynamics in linear and multiarmed star polymers of cis-polyisoprene as studied by dielectric spectroscopy"
Macromolecules **23**, 1826-1830 (1990)
- 53) Vallerien, S.U.; F. Kremer, H. Kapitza, R. Zentel and E.W. Fischer
"Softmode at the ferroelectric/non-ferroelectric phase-transition in a liquid crystalline polymer"
Proceedings of the 7th International Meeting on Ferroelectricity at Saarbrücken (FRG)
Ferroelectrics **109**, 273-278 (1990)
- 54) Zetsche, A., F. Kremer, W. Jung and H. Schulze
"Dielectric study on the miscibility in binary polymer blends"
Polymer **31**, 1883-1887 (1990)
- 55) Kremer, F.; S.U. Vallerien, H. Kapitza and R. Zentel
"A molecular gyroscope based on the Goldstone mode in ferroelectric liquid crystals"
Physics Letters **146**, No. 5, 273-276 (1990)
- 56) Kresse, H. and F. Kremer
"Dielectric relaxation of a swallow-tailed compound at the phase transition from the nematic into the isotropic phase"
Phys. stat. sol. (a) **118**, K 119 - K 122 (1990)
- 57) Kremer, F.; Vallerien, S.U. and Zentel, R.
"Dielectric spectroscopy: Fashionable again"
Adv. Mat. **2**, 145 - 147 (1990)
- 58) Vallerien, S.U.; M. Werth, F. Kremer and H.W. Spiess
"Molecular dynamics and glass transition in a columnar liquid crystal formed by a chiral discotic mesogen"
Liq. Cryst. **8**, 6, 889 - 893 (1990)
- 59) Kapitza, H., R. Zentel, R.J. Twieg, C. Nguyen, S.U. Vallerien, F. Kremer and C. G. Willson
"Ferroelectric liquid crystalline polysiloxanes with high spontaneous polarization and possible applications for non linear optics"
Advanced Materials **2**, 539 (1990)
- 60) Kremer, F.; S.U. Vallerien, H. Kapitza, R. Zentel and E.W. Fischer
"Constant molecular rotation at the smectic-A to smectic-C* transition in ferroelectric liquid crystals"
Phys. Rev. A **42**, 6, 3667-3669 (1990)
- 61) Vallerien, S.U.; F. Kremer, T. Geelhaar and A.E. Wächtler
"Order-parameter fluctuations in a ferroelectric liquid crystal by broadband dielectric spectroscopy"
Phys. Rev. A **42**, 4, 2482-2485 (1990)
- 62) Kremer, F.; J. Rühe and W.H. Meyer (invited talk)
"Dielectric properties of conducting polymers"
Makromol. Chem. Makromol. Symposia **37**, 115-127 (1990)
- 63) Kresse, H.; E. Hempel, F. Kuschel and F. Kremer
"Dielectric measurements on liquid crystalline polymers derived from PETP"
Polymer Bulletin **24**, 93-100 (1990)
- 64) Kresse, H.; C. Tschiesske, B. Linström, F. Kremer and S.U. Vallerien
"The Goldstone-mode of a liquid crystalline thiadiazole derivative"
Cryst. Res. Technol. **25**, 1497-1501 (1990)
- 65) Zentel, R.; H. Kapitza, F. Kremer and S.U. Vallerien
"Synthesis, structure and properties of functionalized liquid crystalline polymers"
ACS-Symposium Series (USA) **435**, 207 (1990)
- 66) Vallerien, S.U.; F. Kremer, G. Scherowsky, A. Schliwa, K. Kühpast and E.W. Fischer
"Broadband dielectric spectroscopy on ferroelectric liquid crystalline side group polymers"
Liq. Cryst. **8**, 5, 719-725 (1990)
- 67) Vallerien, S.U.; F. Kremer, E.W. Fischer, H. Kapitza, R. Zentel and H. Poths
"Experimental proof of piezoelectricity in cholesteric and chiral smectic C*-phases of LC-elastomers"
Makromol. Chem. Rapid Comm. **11**, 593-598, (1990)
- 68) Kresse, H.; S. Ernst, W. Wedler, D. Demus and F. Kremer
"Dynamic Investigation in a Nematic Mixture with High Glass-Transition Temperature"
Ber. Bunsenges. Phys. Chem. **94**, 1478-1483 (1990)

- 69) Boese, D.; F. Kremer and L.J. Fetters
 "Further Investigation on the Molecular Dynamics in Linear and Multiarmed Star Polymers of cis-polyisoprene Studied by Dielectric Spectroscopy"
Polymer **31**, 1831 (1990)
- 70) Kremer F.; L. Dominguez, W.H. Meyer and U., Simmrock
 "Dielectric and electric relaxation in amorphous ionenes" (Abstract)
Synthetic Metal **37**, 349 (1990)
- 1991 -
- 71) Kremer, F.; S.U. Vallerien and E.W. Fischer
 "The Goldstone mode in ferroelectricliquid crystals - A non-linear dielectric loss process"
Liquid Crystals **9**, 1, 145-150 (1991)
- 72) Vallerien, S.U.; R. Zentel, F. Kremer, H. Kapitza and E.W. Fischer
 "Field dependent Goldstone-mode in ferroelectric liquid crystalline polymers"
 Proceedings of the 2nd FLC in Göteborg (June 1989)
Ferroelectrics **113**, 231-241 (1991)
- 73) Kremer, F.; D. Boese and L. Fetters (invited talk)
 "Molecular dynamics in linear and multiarmed star polymers of cis-polyisoprene as studied by broadband dielectric spectroscopy"
J. Non-crystalline Solids **131-133**, 728 (1991)
- 74) Kremer, F.; S.U. Vallerien, R. Zentel and H. Kapitza (invited talk)
 "Molecular Dynamics in Low-Molar and Polymeric Ferroelectric Liquid Crystals"
Makromol. Chem., Makromol. Symp. **44**, 127-138 (1991)
- 75) Schwiegk, S.; H. Fischer, Y. Xu, F. Kremer and G. Wegner
 "Characterization of LB Multilayers of Soluble Phthalocyaninatopolysiloxane"
Makromol. Chem., Makromol. Symp. **46**, 211-216 (1991)
- 76) Schönhals, A.; F. Kremer and E. Schlosser
 "Scaling of the \square -relaxation in low-molar-weight glass-forming liquids and polymers - A comparison",
Phys. Rev. Lett. **67**, 8, 999-1002 (1991)
- 77) Kresse, H.; C. Tschierske, D. Joachim, F. Kremer and S. Vallerien
 "High frequency dielectric relaxation of a ferroelectric liquid crystal"
Cryst. Res. Technol. **26**, 245-250 (1991)
- 78) Poths, H., R. Zentel, S.U. Vallerien and F. Kremer
 "LC-Polymers with Axial Chirality"
Mol. Cryst., Liq. Cryst. **203**, 101-111 (1991)
- 79) Schneider, Th.; B.A. Wolf, H. Kasten and F. Kremer
 "Thermoreversible Gelation and Vitrification of Highly Concentrated Polymer Solutions under Poor Thermodynamic Conditions",
Makromolecules **24**, 5387 (1991)
- 80) Schönfeld, A.; F. Kremer, S.U. Vallerien, H. Poths and R. Zentel
 "Collective and molecular relaxations in polymeric ferroelectric liquid crystals and experimental proof of piezoelectricity in chiral smectic-C elastomers"
Ferroelectrics **121**, 69-77 (1991)
- 81) Kremer, F.; A. Schönfeld, S.U. Vallerien, A. Hofmann and N. Schwenk
 "The molecular origin of ferroelectricity in ferroelectric liquid crystals: A challenge for dielectric spectroscopy at microwave frequencies"
Ferroelectrics **121**, 13-19 (1991).
- 82) Kresse, H.; S. Haas, S. Heinemann and F. Kremer
 "Dielectric relaxation and short range order of a liquid crystalline benzoate"
J. f. Prakt. Chemie **333**, 5, 765-773(1991)
- 83) Vallerien, S.U.; F. Kremer, H.Kresse, B. Lindström and C. Tschierske
 "Low frequency dielectric spectroscopy on mixtures containing ferroelectric liquid crystals"
Liquid Crystals **9**, 5, 757-762 (1991)
- 1992 -
- 84) Kresse, H.; S. Ernst, B. Krücke, F. Kremer and S.U. Vallerien
 "Comparative dielectric investigations of two liquid-crystalline side chain polymers"
Liquid Crystals **11**, 3, 439-445 (1992)
- 85) Kresse, H.; W. Weissflog, F. Kremer and A. Schönfeld
 "High-frequency dielectric relaxation in a swallow-tailed liquid crystal"
Cryst. Res. Technol. **27**, 1, K5-K10, (1992)
- 86) Bahar, S.; B. Erman, F. Kremer and E.W. Fischer
 "Segmental motions of cis-polyisoprene in the bulk state: Interpretation of dielectric relaxation data"
Macromolecules **25**, 816-825 (1992)

- 87) Kremer, F. and J. Klee
 "Dielectric Properties of Glassy Cationic Epoxide-mono Addition Polymers"
Polymer **33**, 3564 (1992)
- 88) Kanetakis, J.; G. Fytas, F. Kremer and T. Pakula
 "Segmental dynamics in homogeneous 1.4-polyisoprene - 1.2-polybutadiene Diblock Copolymers"
Macromolecules **25**, 3484 (1992)
- 89) Katana, G.; A. Zetsche, F. Kremer and E.W. Fischer
 "Dielectric α -relaxation in polymer blends: Miscibility and fluctuations"
ACS Polymer Preprints **33**, 122 (1992)
- 90) Kremer, F.; A. Hofmann and E.W. Fischer
 "Broadband dielectric measurements on the α - and β - relaxation of polymers -A test of mode coupling"
ACS Polymer Preprints **33**, 96 (1992)
- 91) Floudas, G.; J.S. Higgins and F. Kremer
 "Dynamics of a polymer/diluent system as studied by dielectric spectroscopy and neutron scattering"
ACS Polymer Preprints **33**, 130 (1992)
- 92) Fytas, G.; I. Alig, A. Rizos, J. Kanetakis and F. Kremer
 "Segmental and chain dynamics in disordered block copolymers"
ACS Polymer Preprints **33**, 86 (1992)
- 93) Schönhals, A.; F. Kremer and E. Schlosser
 "Dynamical scaling laws at the β -relaxation of low molecular weight liquids and polymers as studied by broadband dielectric spectroscopy"
ACS Polymer Preprints **33**, 124 (1992)
- 94) Alig, I.; F. Kremer, G. Fytas and J. Roovers
 "Dielectric relaxation in disordered poly(isoprene-styrene) diblock copolymers near the microphase separation transition"
Macromolecules **25**, 5277 (1992)
- 95) Floudas, G.; J.S. Higgins, F. Kremer and E.W. Fischer
 "Dynamics of a polymer/diluent system as studied by dielectric spectroscopy and neutron scattering"
Macromolecules **25**, 4955 (1992)
- 96) Poths, H.; A. Schönfeld, R. Zentel, F. Kremer and K. Siemensmeyer
 "Structure-property relationships determining the spontaneous polarization in FLC-polymers"
Advanced Materials **4**, 351 (1992)
- 97) Settles, M.; W. Doster, F. Kremer, F. Post and W. Schirmacher
 „Percolation approach to proton conductivity in hydrated protein powders“
Phil. Mag. B **65**, 4, 861-866 (1992)
- 98) Meyer, W.H.; R. R. Rietz, D. Schaefer and F. Kremer
 "Dielectric and electric relaxation in IONENE-glasses"
Electrochimica Acta **37**, 9, 1491-1494 (1992)
- 99) Kremer, F.; A. Schönfeld, A. Hofmann, R. Zentel and H. Poths
 "Collective and molecular dynamics in ferroelectric liquid crystals: From low molar to polymeric and elastomeric systems"
 Special Topic Issue in Polymers for Advanced Technology, Guest Editor: F. Kremer, 249 (1992)
Polymers for Adv. Technologies, **3**, 249-255
- 100) Zentel, R.; H. Poths, F. Kremer, A. Schönfeld, D. Jungbauer, R. Twieg, C.G. Wilson and D. Yoon
 "Polymeric liquid crystals: Structural basis for ferroelectric and non-linear optical properties"
Polymers for Advanced Technologies **3**, 5, 211-217 (1992)
- 101) Zorn, R.; D. Richter, B. Farago, B. Frick, F. Kremer, U. Kirst and L.J. Fetter
 "Comparative study of the segmental relaxation in polyisoprene by quasi-elastic neutron scattering and dielectric spectroscopy"
Physica B **180&181**, 534-536 (1992)
- 102) Ezquerra, T. A.; F. Kremer, F.J. Balta-Calleja and E. L. Carbacos
 „AC electrical properties of insulator-conductior composites“, Piers VI, p. 273-301, (1992) I.A. Kong Ed.
 Elsevier, Piers VI, p. 273-301 (1992)
- 1993 -
- 103) Zentel, R.; H. Baumann, D. Scharf, M. Eich, A. Schönfeld and F. Kremer
 "Second-order nonlinear optical main-chain polymers by polymerization of poled monomers"
Makromol. Chem. Rapid Commun. **14**, 121 (1993)
- 104) Kirst, U.; F. Kremer and V. Litvinov
 "Broadband dielectric spectroscopy on the molecular dynamics of bulk and adsorbed poly(dimethylsiloxane)"
Macromolecules **26**, 975 (1993)
- 105) Floudas, G.; J.S. Higgins, G. Meier, F. Kremer and E.W. Fischer
 "Dynamics of Bisphenol A Polycarbonate in the Glassy and Rubbery States as studied by neutron

- scattering and complementary techniques"
Macromolecules **26**, 1676 (1993)
- 106) Schönhals, A.; F. Kremer and E. Schlosser
 "The scaling of the α - relaxation in polymers and low molecular glass - forming liquids - a comparison"
Progress of Colloid and Polymer Sci. **91**, 39 (1993)
- 107) Schönfeld, A.; F. Kremer, A. Hofmann, K. Kühnpast, J. Springer and G. Scherowsky
 "The beta-relaxation in low molecular weight and in polymeric side group ferroelectric liquid crystals"
Makromol. Chem. **194**, 1149 (1993).
- 108) Schönhals, A., F. Kremer, A. Hofmann, E.W. Fischer and E. Schlosser
 "Anomalies in the scaling of the dielectric \square - relaxation"
Phys. Rev. Lett. **70**, 22, 3459 (1993)
- 109) Schönfeld, A.; F. Kremer and R. Zentel
 "Collective and molecular dynamics in low molar mass and polymeric ferroelectric liquid crystals"
Liquid Crystals **13**, 3, 403 (1993)
- 110) Katana, G.; F. Kremer, E.W. Fischer and R. Plaetschke
 "Broadband dielectric study on binary blends of Bisphenol-A and Tetramethyl-bisphenol-A-polycarbonate"
Macromolecules **26**, 3075 (1993)
- 111) Schönfeld, A. and F. Kremer
 "The β -relaxation in ferroelectric liquid crystals"
Ber. Bunsenges. Phys. Chem. **97**, 1237 (1993)
- 112) Schönhals, A.; F. Kremer and F. Stickel
 Reply on the comment on: „Scaling of the α -relaxation in low-molecular weight glassforming liquids and polymers“
Phys. Rev. Lett. **71**, 4096 (1993)
- 113) Fytas,G.; A. Rizos, I. Alig, F. Kremer and J. Roovers
 „Segmental and chain dynamics in a diblock copolymer melt near the microphase separation transition“
Polymer **34**, 11, 2263 (1993)
- 114) Hofmann, R.; F. Kremer and E. W. Fischer
 "The scaling of the dielectric α - and β -relaxation of amorphous polyethylenterephthalate"
Physica A **201**, 106-111 (1993)
- 115) Stickel, F.; F. Kremer and E. W. Fischer
 "The scaling of the dielectric and electric relaxation in two low-molecular weight glass forming liquids"
Physica A **201**, 318-321 (1993)
- 116) Ito, S.; M. Mitsuishi, M. Yamamoto, Th. Fischer, F. Kremer and W. Knoll
 „Guided optical waves for a study of molecular orientation and motion in a ferroelectric liquid crystal layer“
Ferroelectrics **148**, 369-378 (1993)
- 117) Schönhals, A.; F. Kremer, A. Hofmann and E.W.Fischer
 „Anomalies in the scaling of the α -relaxation studied by dielectric spectroscopy“
Physica A **201**, 263-269 (1993)
- 1994 -
- 118) Kremer, F. and A. Schönfeld
 „Collective and molecular dynamics in ferroelectric liquid crystals: From low molar to polymeric and elastomeric compounds“
 „Ordering in Macromolecular Systems“ *Springer-Verlag, Heidelberg*, 181-189 (1994)
- 119) Ito, S.; E. Aust, F. Kremer and W. Knoll
 "Guided optical waves in a ferroelectric liquid crystal layer"
Journ. Appl. Phys. **75**, 4, 1962 (1994)
- 120) Ezquerra, T.A.; F. Kremer, F.J. Balta-Calleja and L. Cabarcos
 „Double ferroelectric-to-paraelectric transition in 70/30 Vinylidene Fluoride-Trifluoro Ethylene copolymer as revealed by dielectric spectroscopy“
Journ. of Polymer Science: Part B: Polymer Physics **32**, 1449-1455 (1994)
- 121) Hofmann, A.; F. Kremer, E.W. Fischer and A. Schönhals
 "The scaling of the α - and β -relaxation in low molecular weight and polymeric glassforming systems".
 "Disorder Effects on Relaxational Processes" (Eds. Richert/Blumen), *Springer - Verlag, Berlin, Heidelberg*, 309-331 (1994)
- 122) Gouda, F.; S.T. Lagerwall, K. Skarp, B. Stebler, F. Kremer and S.U. Vallerien
 „Broad band dielectric relaxation spectroscopy of a chiral smectic B-crystal phase“
Liquid Crystals **17**, 3, 367-379 (1994)
- 123) Schönhals, A. and F. Kremer
 „The scaling of the dielectric α -relaxation in low molecular glass-forming systems and polymers“
Journ. of Non-Crystalline Solids **172-174**, 336-343 (1994)

- 124) Schönfeld, A.; F. Kremer, H. Poths and R. Zentel
„Broadband dielectric spectroscopy on ferroelectric liquid crystalline polymers“
Proc. Int. Soc. Optical Engineering: Liquid Crystals Mat. Devices and Applic. III, 2175 (8.-9. Febr.1994)
Mol. Cryst. Liq. Cryst. **254**, 49-60 (1994)

- 125) Stickel, F.; E. W. Fischer, Schönhals, A. and F. Kremer
Reply: Comment on „Anomalies in the Scaling of the dielectric \square - relaxation“
Phys. Rev. Lett. **73**, 2936 (1994)

- 126) Kirst, U.; F. Kremer, T. Pakula and J. Hollingshurst
„Molecular dynamics of cyclic and linear poly (dimethylsiloxanes)
J. Colloid & Polymer Science **272**, 1420-1429 (1994)

- 1995 -

- 127) Arndt, M. and F. Kremer
„Dielectric relaxation in small confining geometries“
Materials Research Society; Symposium Proceedings Vol. **366**, 259-263 (1995)
- 128) Müller, M.; F. Kremer, R. Stadler, E.W. Fischer and U. Seidel
“The molecular dynamics of thermoreversible networks as studied by broadband dielectric spectroscopy“
J. Colloid & Polymer Science **273**, 38-46 (1995)
- 129) Groothues, H., F. Kremer, P.G. Schouten and J. M. Warman
„Charge Transport and molecular Dynamics in Columnar Stacks of Liquid Crystalline Phthalocyanine Derivatives“
Advanced Materials **7**, 3, 283-286 (1995)
- 130) Groothues, H.; F. Kremer, D. M. Collard and C.P. Lillya
„Dynamic properties of discotic liquid crystals with triphenylene and benzene core, studied by broadband dielectric spectroscopy“
Liquid Crystals **18**, No. 1, 117-121 (1995)
- 131) Servaty, S.; F. Kremer, A. Schönfeld and R. Zentel
„A new opto-dielectric effect based on the photoisomerization of azo compounds in ferroelectric liquid crystals“
Zeitschrift für Physikal. Chemie Bd. **190**, 73-82 (1995)
- 132) Katana, G.; E.W. Fischer, V. Abetz, F. Kremer and Th. Hack
„Influence of concentration fluctuations on the dielectric α -relaxation in homogeneous polymer mixtures“
Macromolecules **28**, 2714-2722 (1995)
- 133) Rozanski, S.; F. Kremer P. Köberle and A. Laschewsky
„Relaxation and charge transport in mixtures of zwitterionic polymers and inorganic salts“
Macromol. Chem. Phys. **196**, 877-890 (1995)
- 134) Ito, S.; T. Fischer, F. Kremer and W. Knoll
“Guided optical waves in a ferroelectric liquid crystal layer: A birefringence analysis of molecular orientation and switching“
Mol. Cryst.Liq. Cryst. **264**, 99-114 (1995)
- 135) Poths, H.; E. Wischerhoff, R. Zentel, A. Schönfeld, G. Henn and F. Kremer
„From Monomeric to Polymeric Ferroelectric Liquid Crystals: A comparative study of ferroelectric properties“
Liquid Crystals **18**, No.5, 811-818 (1995)
- 136) Schmidt, A.; S. Lehmann, M. Georgelin, G. Katana, K. Mathauer, F. Kremer, K. Schmidt-Rohr, C. Boeffel, W. Knoll and G. Wegner
„Molecular dynamics of “hairy rod” molecules in the solid state: Poly(γ -methyl-L-glutamate)-co-(γ -n-octadecyl-L-glutamate) in solution cast films“
Macromolecules **28**, 5487-5497 (1995)
- 137) Kirst, U. and F. Kremer
„Dielektrische Spektroskopie“, erschienen in: „Spektroskopie amorpher und kristalliner Festkörper“ Hrsg. D. Haarer und H. W. Spiess, *Steinkopff-Verlag, Darmstadt* (1995)
- 138) Müller, M.; R. Stadler, F. Kremer and G. Williams
„On the motional coupling between chain and junction dynamics in thermoreversible networks“
Macromolecules **28**, No. 20, 6942-6949 (1995)
- 139) Stannarius R.; F. Kremer and M. Arndt
„Dynamic Exchange Effects in Broadband Dielectric Spectroscopy“
Phys. Rev. Lett. **75**, 4698 (1995)
- 140) Blum, G.; F. Kremer, T. Jaworek and G. Wegner
„Molecular dynamics of poly- γ - octadecyl-co-methyl-l-glutamate in ultrathin films and in the bulk“,
Advanced Materials **7**, 12, 1017-1020 (1995)

- 1996 -

- 141) Schäfer, H.; E. Sternin, R. Stannarius, M. Arndt and F. Kremer
 „Novel approach to the analysis of broadband dielectric spectra“
Phys. Rev. Lett. **76**, 12, 2177-2180 (1996)
- 142) Rozanski, S. A.; R. Stannarius, H. Groothues and F. Kremer
 „Dielectric properties of nematic liquid crystal 4-n-pentyl-4'-cyanobiphenyl in porous membranes“
Liq. Cryst. **20**, No.1, 59-66 (1996)
- 143) Kremer, F.; Th. Fischer and A. Schönfeld
 „Broadband dielectric spectroscopy on the collective and molecular dynamics in low molecular weight and polymeric ferroelectric liquid crystals“
Ferroelectrics **176**, 125-143 (1996)
- 144) Meier,G.; F. Kremer, G. Fytas and A. Rizos
 Evidence of dynamik heterogeneity as obtained from dielectric and brillouin light-scattering studies of poly(n-hexylmethacrylate)
Journal of Polymer Science: Part B: Polymer Physics **34**, 1391-1401 (1996)
- 145) Antonietti, M.; M. Neese, G. Blum and F. Kremer
 „Dielectric and mechanic relaxation in polyelectrolyte supported bilayer stacks: a model for the dynamics of membranes“
Langmuir **12**, No.18, 4436-4441 (1996)
- 146) Wiesner, U.; H.W. Spiess, M. Müller, F. Kremer, F. Laupretre, J.L. Halary and L. Monerie
 „Local dynamics in a thermotropic terpolyester as revealed by dynamic mechanical analysis, ^2H NMR and dielectric spectroscopy“
Acta Polymerica **47**, 429-435 (1996)
- 147) Antonietti, M.; M. Maskos, F. Kremer and G. Blum
 „Dielectric relaxation and Conductivity in polyelectrolyte-surfactant complexes“
Acta Polymerica **47**, 460-465 (1996)
- 148) Gorbatschow, W.; M. Arndt, R. Stannarius and F. Kremer
 „Dynamics of H-bonded liquids confined to nanopores“
Europhysics Letters **35**, 719-724 (1996)
- 149) Arndt, M.; R. Stannarius, W. Gorbatschow and F. Kremer
 „Dielectric investigations of the dynamic glass transition in nanoporous“
Phys. Rev. E **54**, 5, 5377-5390 (1996)
- 150) Groothues, H.; F. Kremer, Th. Plesnivy and H. Ringsdorf
 „Molecular dynamics in liquid crystalline N-acylated oligoethylenimines as studied by broadband dielectric spectroscopy“
Macromol. Chem. Phys. **197**, 3881-3895 (1996)
- 151) Eckert, T.; H. Finkelmann, M. Keck, W. Lehmann and F. Kremer
 „Piezoelectricity of mechanically oriented Sc^+ - elasteomers“
Macromol. Chem. Rapid Commun. **17**, 767-773 (1996)
- 152) Brodowsky, H. M.; U.-C. Boehnke and F. Kremer
 „Wide range standard for scanning probe microscopy height calibration“
Rev. Sci. Instruments **67**, No. 12, 4198-4200 (1996)
- 1997 -
- 153) Fischer, B.; C. Thieme, Th. M. Fischer, F. Kremer, T. Öge and R. Zentel
 "The packing of azobenzene dye moieties and mesogenes in polysiloxane-block copolymers and its impact on the opto-dielectric effect"
Liquid Crystals **22**, No. 1, 65-74 (1997)
- 154) Klöpper, N.; F. Kremer and Th. Fischer
 „IR-modulation spectroscopy on the collective dynamics of free-standing ferroelectric liquid crystalline films“
Journal de Physique II, France **7**, 57-67 (1997)
- 155) Shilov, S.V.; H. Skupin, F. Kremer E. Gebhardt and R. Zentel
 „Segmental orientation and mobility of ferroelectric liquid crystal polymers“
Liquid Crystals **22**, No.2, 203-210 (1997)
- 156) Cramer, Ch.; Th. Cramer, F. Kremer and R. Stannarius
 „Measurements of orientational order and mobility of a nematic liquid crystal in random nanometer confinement“
J. Chem. Phys. **106**, No. 9, 3730-3742 (1997)
- 157) Arndt, M.; R. Stannarius, H. Groothues E. Hempel and F. Kremer
 „Lengthscale of cooperativity in the dynamic glass transition“
Phys. Rev. Lett. **79**, 2077-2080 (1997)
- 158) Sarroney, A. M.; H. Groothues, F. Kremer and H.R. Kricheldorf
 „Influence of the molecular structure on the dynamics in poly(ester-imide)s“
Macromol. Chem. and Physics **198**, 2817-2824 (1997)

- 159) Brodowsky, H.M.; U.-C. Boehnke, F. Kremer, E. Gebhard and R. Zentel
 „Temperature dependent AFM on ferroelectric liquid crystalline polymer and elastomer films“
Langmuir **13**, 5378-5382 (1997)
- 160) Shilov, S.V.; H. Skupin, F. Kremer, T. Wittig and R. Zentel
 „Time resolved FTIR-spectroscopy on the inter- and intramolecular orientational dynamics in ferroelectric liquid crystalline dimer“
Phys. Rev. Letters **79**, No. 9, 1686-1689 (1997)
- 161) Cramer, Ch.; Th. Cramer, M. Arndt, F. Kremer, L. Naji and R. Stannarius
 „NMR and dielectric studys of nanoconfined nematic liquid crystal“
Mol. Cryst. Liq. Cryst. **303**, 209-217 (1997)
- 162) Shilov, S.V.; H. Skupin, F. Kremer, T. Wittig and R. Zentel
 „Ordering and mobility of ferroelectric liquid crystal dimer as studied by FT-IR spectroscopy with 2D-IR correlation analysis“
Macromol. Symp. **119**, 261-268 (1997)
- 163) Rozanski, S.A.; F. Kremer, R. Stannarius and H. Groothues
 „Determination of the order parameter in nematic liquid crystal confined to anopore membranes“
SPIE **3181**, 119-122 (1997)
- 164) Huwe, A.; M. Arndt, F. Kremer, C. Hagemüller and P. Behrens
 „Dielectric investigations of the molecular dynamics of propanediol in mesoporous silica materials“
J. Chem. Phys. **107**, No. 22, 9699-9701 (1997)
- 165) Rozanski, S.; F. Kremer, H. Groothues and R. Stannarius
 „The dielectric properites of nematic liquid crystal 5cb in treated and non-treated anopore membranes“
Mol. Cryst. Liq. Cryst. **303**, 319 (1997)

- 1998 -

- 166) Reiche, A.; T. Cramer, G. Fleischer, R. Sandner, B. Sandner, F. Kremer and J. Kärger
 „Ionic conductivity-structure property relationship in gel electrolytes on the basis of oligo(ethylene glycol)₂₃ dimethacrylate plasticized with oligo(ethylene glycol)₁₁ dimethyl ether“
J. Phys. Chem. B **102**, 1861-1869 (1998)
- 167) Nagi, L.; F. Kremer and R. Stannarius
 „Collective dynamics of a ferroelectric smectogen in geometrical confinement“
Liquid Crystal **25**, No.3, 363-369 (1998)
- 168) Fahrwald, A.; H. Skupin, Th. Fischer and F. Kremer
 „Mechanical modulated wave guide spectroscopy“
Rev. Sci. Instrum. **69**, No. 8, 2999-3001 (1998)
- 169) Lehmann, W.; P. Gattinger, M. Keck and F. Kremer
 „The inverse electromechanical effect in mechanically oriented Sc⁺ - Elastomers examined by means of an ultra-stable michelson interferometer“
Ferroelectrics **208-209**, 373-383 (1998)
- 170) Kremer, F.; W. Lehmann, H. Skupin, L. Hartmann, P. Stein and H. Finkelmann
 „Piezoelectricity in Ferroelectric Liquid Crystalline Elastomers“
Polymers for Adv. Techn. **9**, 672-676 (1998)
- 171) Stannarius, R.; N. Klöpper, Th. Fischer and F. Kremer
 „Comment on Kink switching in ferroelectric free-standing films with high spontaneous polarization“
Phys. Rev.E **58**, 5, 6884-6887 (1998)
- 172) Meier, J.G.; J. Stumpe, B. Fischer, C. Tiehme, Th. M. Fischer, F. Kremer, T. Öge and R. Zentel
 „Optical suppression of ferroelectricity in polysiloxane copolymers with chiral and photochromic side groups“
Polymers for Adv. Techn. **9**, 665-671 (1998)
- 173) Abdallah, M.; S. Shilov, F. Kremer, G. Mao, Ch. K. Ober and M. Brehmer
 „Molecular orientation and dynamics in ferroelectric block copolymers monitored by FT-IR spectroscopy“
Macromolecules **31**, No. 25, 9008-9012 (1998)
- 174) Fahrwald, A.; N. Klöpper, S. Ito, F. Kremer and Th. Fischer
 „Dynamical director profile analysis of ferroelectric liquid crystals using modulated wave guide spectroscopy“
Mol. Cryst. Liq. Cryst. **325**, 173-183 (1998)

- 1999 -

- 175) Brodowsky, H.M.; Boehnke, U.-C., F. Kremer, E. Gebhard and R. Zentel
 „Mechanical deformation behavior in highly anisotropic elastomers made from ferroelectric liquid crystalline polymers“
Langmuir **15**, No.1, 274-278 (1999)

- 176) Rittig, F.; A. Huwe, G. Fleischer, J. Kärger and F. Kremer
 „Molecular dynamics of glass-forming liquids in confining geometries“
Phys. Chem. Chem. Phys. **1**, 519-523 (1999)
- 177) Kremer, F.; A. Huwe, M. Arndt, P. Behrens and W. Schwieger
 „How many molecules form a liquid?“
J. Phys. Condens Matter **11**, A175-A188 (1999)
- 178) Huwe, A.; F. Kremer, P. Behrens and W. Schwieger
 „Molecular dynamics in confining space: From the single molecule to the liquid state“
Phys. Rev. Lett. **82**, 11, 2338-2341 (1999)
- 179) Shilov, S.V.; E. Gebhard, H. Skupin, R. Zentel and F. Kremer
 „Electric field-induced segmental reorientation in ferroelectric liquid crystalline polymers and elastomers“
Macromolecules **32**, 1570 (1999)
- 180) Skupin, H.; F. Kremer, S.V. Shilov, P. Stein and H. Finkelmann
 „Time resolved FTIR spectroscopy on structure and mobility of single crystal ferroelectric liquid crystalline elastomers“
Macromolecules **32**, 3746 (1999)
- 181) Shilov, S.V.; S. Rauch, H. Skupin, G. Heppke and F. Kremer
 „Reorientation behaviour of bent core molecules in response to an external electric field as detected by time-resolved FTIR spectroscopy“
Liq. Cryst. **26**, No. 9, 1409-1413 (1999)
- 182) Rozanski, S.A.; R. Stannarius and F. Kremer
 „Dielectric and electro-optic study of nematic 5CB confined in nitrate cellulose membranes“
Z. f. Physikal. Chemie **211**, 147-158 (1999)
- 183) Skupin, H.; F. Kremer, S. Shilov, W. Lehmann, H. Brodowsky, E. Gebhard and R. Zentel
 „Structure and mobility in ferroelectric liquid crystalline elastomers (FLCE)“
Macromol. Sci.-Phys. B **38**, No. 5&6, 709-719 (1999)
- 184) Skupin, A.; H. Skupin, Th.M. Fischer, F. Kremer, E. Gebhardt and R. Zentel
 „Liquid crystalline polymers under uniaxial mechanical stress as observed with modulated waveguide spectroscopy“
Mol. Cryst. Liq. Cryst. **331**, 135-142 (1999)
- 185) Skupin, H.; S.V. Shilov, F. Kremer, P. Stein, H. Finkelmann, E. Gebhardt and R. Zentel
 „Time-resolved polarized FTIR-spectroscopy on the molecular structure and mobility of ferroelectric LC elastomers (FLCE)“
Mol. Cryst. Liq. Cryst. **328**, 333-340 (1999)
- 186) Lehmann, W.; L. Hartmann, F. Kremer, P. Stein, H. Finkelmann, H. Kruth and S. Diele
 „The direct and inverse electromechanical effect in ferroelectric liquid crystalline elastomers (FLCE)“
J. Appl. Phys. **86**, No. 3, 1647 (1999)
- 187) Lehmann, W.; N. Leister, L. Hartmann, D. Geschke, F. Kremer, P. Stein and H. Finkelmann
 „Piezoelectric and pyroelectric investigations on microtomized sections of single-crystalline ferroelectric liquid crystalline elastomers (SC-FLCE)“
Mol. Cryst. Liqu. Cryst. **328**, 437-445 (1999)
- 188) Boehnke, U.-C.; H.M. Brodowsky, H. Groothues and F. Kremer
 „Investigations of the force-distance behaviour in polar liquids“
J. Phys. Chem. B **103**, No.22, 6741-6745 (1999)
- 189) Huwe, A.; F. Kremer, M. Arndt, P. Behrens and W. Schwieger
 "Glass transition in sub-nanometer confinement"
 Proceedings of the MRS-Fall-Meeting, Boston 1998, Vol. **543**, S.115-123 (1999)
- 190) Barmatov, E.; A.Filippov, L.Andreeva, M.Barmatova, F.Kremer and V.Shibaev,
 "Reentrant nematic phase formation in hydrogen-bonded blends of liquid crystalline functionalized copolymers with low molecular weight non-mesogenic dopant"
Macromol. Rapid. Commun. **20**, 10, 521 (1999).
- 191) Rozanski, S.A.; L. Naji, F. Kremer and R. Stannarius
 "Influence of confining geometries on collective dynamic modes in chiral smectogens“
Mol. Cryst. Liq. Cryst. **329**, 483-489 (1999)
- 192) Brodowsky, H.M.; F. Kremer, E. Gebhard and R. Zentel
 "Atomic force microscopic studies of thin oriented films of ferroelectric liquid crystalline elastomers with varying network architecture"
J. Macromol. Sci.-Phys. B **38**, No. 5&6, 593-601 (1999)
- 2000 -
- 193) Leistner, N.; W. Lehmann, U. Weber, D. Geschke, F. Kremer, P. Stein and H. Finkelmann
 "Measurement of the pyroelectric response and of the thermal diffusivity of microtomized sections of "single crystalline" ferroelctric liquid crystalline elastomers"
Liquid Crystals **27**, No. 2, 289-297 (2000)

- 194) Filippov, A.P.; L.N. Andreeva, E.B. Barmatov, M.V. Barmatova, S. Grande, F. Kremer and V.P. Shibaev
 "Effect of hydrogen bonds on the order parameter and elastic constants of comb-shaped liquid-crystalline copolymers"
Polymer Sci. **42**, No. 3, 329-337 (2000)
- 195) Huwe, A.; D. Appelhans, J. Prigann, B.I. Voit and F. Kremer
 "Broadband dielectric spectroscopy on the molecular dynamics in dendritic model systems"
Macromolecules **33**, 3762-3766 (2000)
- 196) Hartmann, L.; Th. Kratzmüller, H.-G. Braun and F. Kremer
 "Molecular dynamics in grafted poly(ω -benzyl-L-glutamate)(PBLG) in the swollen and in the dried state"
J. Phys. IV France **10**, 309-312 (2000)
- 197) Huwe, A., F. Kremer, L. Hartmann, Th. Kratzmüller, H.G. Braun, J. Kärger, P. Behrens, W. Schwieger, G. Ihlein, Ö. Weiß and F. Schüth
 "Molecular dynamics in confining geometries"
J. Phys. IV France **10**, 59-65 (2000)
- 198) Dalcanale, E.; G. Antonioli, M. Ricco, H. Groothues and F. Kremer
 "Molecular dynamics and conformational behaviour of mesogenic resorcinarenes"
Liquid Crystals **27**, 9, 1161-1169 (2000)
- 199) Kremer, F.; H. Skupin, W. Lehmann, L. Hartmann, P. Stein and H. Finkelmann
 "Structure, mobility and piezoelectricity in ferroelectric liquid crystalline elastomers"
Adv. in Liqu. Crystals: A special volume of Adv. Chem. Phys. Vol. **113**, 183-201
 (Ed. J. Vij) 2000
- 200) Huwe, A., F., Kremer, J. Kärger, P. Behrens, W. Schwieger, G. Ihlein, Ö. Weiß and F. Schüth
 "Molecular dynamics in zeolitic host systems"
Journal of Molecular Liquids **86**, 173-182 (2000)
- 201) Hartmann, L.; Th. Kratzmüller, H.-G. Braun and F. Kremer
 "Molecular dynamics of grafted PBLG in the swollen and in the dried state"
Macromol. Rapid Commun. **21**, 814-819 (2000)
- 202) Lehmann, W.; H. Skupin, F. Kremer, E. Gebhard and R. Zentel
 "Electromechanical effects in free standing FLC elastomer films as determined by interferometric measurements"
Ferroelectrics **243**, 107-114 (2000)
- 203) Brodowsky, H.; F. Kremer, E. Gebhard and R. Zentel
 "Atomic force microscopic studies of the influence of stretching on thin oriented films of ferroelectric liquid crystalline elastomers"
Ferroelectrics **243**, 115-123 (2000)
- 204) Heinig, P.; S. Wurlitzer, P. Steffen, F. Kremer and Th. Fischer
 "Local surface potentials in the three-phase coexistence region of a Langmuir monolayer"
Langmuir **16**, 10254-10257 (2000)
- 205) Filippov, A.P., V.V. Andropov, E.B. Barmatov, F. Kremer, M.V. Barmatova and V.P. Shibaev "
 "Phase behaviour and elastic constants K1 and K3 for hydrogen-bonded blends of a functionalized LC polymer with a low molecular weight non-mesogenic dopant"
Liquid Crystals **27**, No. 12, 1585-1594 (2000)
- 206) Barmatov, E., S. Grande, A. Filippov, M. Barmatova, F. Kremer and V. Shibaev
 "Order parameter for hydrogen-bonded blends of the functionalized liquid crystalline polymer with a low molecular weight dopant"
Macromol. Chem. Phys. **201**, No. 17, 2603-2609 (2000)
- 207) Barmatov, E.B.; M.V. Barmatova, F. Kremer and V.P. Shibaev,
 "Phase behavior of functionalized liquid crystalline copolymers containing maleic acid fragments"
Macromol. Chem. Phys. **201**, No. 17, 2597-2602 (2000)
- 208) Filippov, A.P.; L.N. Andreeva, E.B. Barmatov, M.V. Barmatova, F. Kremer and V.P. Shibaev,
 "Effect of intra- and intermolecular hydrogen bonds on the order parameter and elasticity constants of side-chain functionalized LC polymers"
Macromol. Chem. Phys. **201**, No. 17, 2591-2596 (2000)
- 2001 -
- 209) Merenga, A.S.; C.M. Papadakis, F. Kremer, J. Liu and A.F. Yee
 Comparative broadband dielectric study on polyestercarbonates with 1,4-cyclohexylene linkages
Macromolecules **34**, 76-81 (2001)
- 210) Lehmann, W.; H. Skupin, C. Tolksdorf, E. Gebhard, R. Zentel, P. Krüger, M. Lösche and F. Kremer
 "Giant lateral electrostriction in ferroelectric liquid crystalline elastomers"
Nature **410**, 447-450 (2001)

- 211) Prigann, J.; S.V. Shilov, H. Skupin, F. Kremer, G. Heppke and S. Rauch
 "Time-resolved polarized FTIR-spectroscopy on structure and mobility in Banana-shaped liquid crystal molecules"
Mol. Cryst. and Liq. Cryst. **359**, 379-386 (2001)
- 212) Skupin, H.; S.V. Shilov, F. Kremer, E. Gebhard and R. Zentel
 "Structure and mobility in ferroelectric liquid crystalline Elastomers as studied by time-resolved FTIR spectroscopy"
Mol. Cryst. and Liq. Cryst. **358**, 37-51 (2001)
- 213) Rozanski, St. A., R. Stannarius and F. Kremer
 "Collective dynamic modes of microconfined ferroelectric liquid crystals"
IEEE Transactions **8**, No.3, 488-493(2001)
- 214) Rozanski, St. A.; R. Stannarius, F. Kremer and S. Diele
 "Structure and dynamics of ferroelectric liquid crystals under random geometrical restrictions"
Liquid Crystals **28**, No. 7, 1071-1083 (2001)
- 215) Spange, St.; A. Gräser, A. Huwe, F. Kremer, C. Tintemann and P. Behrens
 „Cationic host-guest polymerization of N-vinylcarbazole and vinyl ethers in MCM-41,
 MCM-48 and Nanoporous glasses“
Chem. European Journ. **7**, No. 1, 3722-3728 (2001)
- 216) Merenga, A.S.; C.M. Papadakis, F. Kremer, J. Liu and A.F. Yee
 "Broadband dielectric spectroscopy on the inter- and intramolecular dynamics of a series
 of polyester copolymers"
Colloid & Polymer Sciences **279**, 1064-1072 (2001)
- 217) Barmatov, E.B.; M.V. Barmatova, F. Kremer and V.P. Shibaev
 "Phase state and orientational order in liquid-crystalline polymer blends with hydrogen bonds"
Polymer Science A **43**, No. 4, 416-423 (2001)
- 218) Zhukov, S.; T. Borisova, E. B. Barmatov, M.V. Barmatova, V.P. Shibaev, B. Stühn, F. Kremer and
 P. Pissis
 "Dielectric and IR spectroscopy of the macromolecular reaction of anhydridization in the functionalized
 side-chain liquid crystalline copolymer containing acrylic acid groups."
Macromolecules **34**, 3615-3625 (2001)
- 219) Hartmann, L.; Th. Kratzmüller, H.-G. Braun and F. Kremer
 "Molecular dynamics of grafted PBLG in the swollen and in the dried state"
IEEE Transactions DEI **8**, 390 (2001)

- 2002 -

- 220) Brodowsky, H.M.; E.M. Terentjew, F. Kremer and R. Zentel
 "Induced roughness in thin films of smectic C* elastomers"
Europhysics Letters **57**, No. 1, 53-59 (2002)
- 221) Shilov, S.V.; M. Müller, D. Kruerke, G. Heppke, H. Skupin and F. Kremer
 "Molecular arrangements and reorientation behavior in ferroelectric columnar liquid
 crystals as studied by time-resolved FT-IR spectroscopy"
Phys.Rev. E **65**, 021707 (2002)
- 222) Kremer, F.
 "Dielectric spectroscopy – yesterday, today and tomorrow"
J. of Non Crystalline Solids **305**, 1-9 (2002)
- 223) Prigann, J.; Ch. Tolksdorf, H. Skupin, R. Zentel and F. Kremer
 "FT-IR spectroscopic studies on reorientation of ferroelectric liquid crystals in a thermoreversible gel
 network"
Macromolecules **35**, 4150-4154 (2002)
- 224) Huwe, A. and F. Kremer
 "Molecular dynamics in confining geometries"
 in Liquid Dynamics, Experiments, Simulation and Theory, Editor John T. Fourkas,
ACS Symposium Series **820**, 268-283 (2002)
- 225) Rozanski, S.A.; R. Stannarius and F. Kremer
 "Indication for a flexoelectric mode in nanoconfined ferroelectric liquid crystal"
Proceedings of SPIE **4759**, 178-183 (2002)
- 226) Hartmann, L.; W. Gorbatschow, J. Hauwede and F. Kremer
 "Molecular dynamics in thin films of isotactic PMMA"
Eur. Phys. J.E **8**, 145-154 (2002)
- 227) Massalska-Arodz, M., V.Yu. Gorbachev, J. Krawczyk, L. Hartmann and F. Kremer
 "Molecular dynamics of the liquid crystal 6O2OCB in nanopores"
J. Phys.: Condens Matter **14**, 8435-8443 (2002)
- 228) Lehmann, E.; Ch. Chmelik, H. Scheidt, S. Vasenkov, B. Staudte, J. Kärger, F. Kremer,
 G. Zadrozna and J. Kornatowski

"Regular intergrowth in the AFI type crystals: Influence on the intracrystalline adsorbate distribution as observed by interference and FTIR-microscopy"
J. Am. Chem. Soc. **124**, 8690-8692 (2002)

- 229) Shina Roy, S.; W. Lehmann, E. Gebhardt, Ch. Tolksdorf, R. Zentel and F. Kremer
"Inverse piezoelectric and electrostrictive response in freely suspended FLC elastomer film as detected by interferometric measurements"
Mol. Cryst. Liq. Cryst. **375**, 253-268 (2002)
- 230) Zorn, R.; L. Hartmann, B. Frick, D. Richter and F. Kremer
"Inelastic neutron scattering experiments on the dynamics of a glassforming material in mesoscopic confinements"
J. Non-Cryst. Solids **307**, 547 (2002)

- 2003 -

- 231) Hartmann, L.; F. Kremer, P. Pouret and L. Léger
"Molecular Dynamics in grafted layers of poly(dimethylsiloxane) (PDMS)"
J. Chem. Phys. **118**, No.13, 6052 (2003)
- 232) Doxastakis, M.; D.N. Theodorou, G. Fytas, F. Kremer, R. Faller, F. Müller-Plathe and N. Hadjichristidis
"Chain and local dynamics of polyisoprene as probed by experiments and computer simulations"
J. Chem. Phys. **119**, No.13, 6883-6894 (2003)
- 233) Serghei, A. and F. Kremer
"Confinement-induced relaxation process in thin films of cis-polyisoprene"
Phys. Rev. Letters **91**, No.16, 165702 (2003)
- 234) Kremer, F.; L. Hartmann, A. Serghei, P. Pouret and L. Léger
"Molecular dynamics in thin grafted and spin-coated polymer layers"
EJP E **12**, No.1, 139-142 (2003)
- 235) Serghei, A.; F. Kremer and W. Kob
"Chain conformation in thin polymer layers as revealed by simulations of ideal random walks"
EJP E **12**, No. 1, 143-146 (2003)
- 236) Spange, S.; A. Gräser, F. Kremer, A. Huwe and Ch. Jäger
"Cationic Host-Guest Polymerization of Vinyl Monomers in MCM-41"
Book-chapter to: "Host-Guest Systems Based on nanoporous Crystals"
Eds.: F. Laeri, F. Schüth, U. Simon, M. Wark
Wiley-VCH, Weinheim 2003 (ISBN 3-527-30501-7)
- 237) Busch, P.; D. Posselt, D.-M. Smilgies, B. Rheinländer, F. Kremer and C.M. Papadakis
"Lamellar Diblock copolymer thin films investigated by tapping mode Atomic Force Microscopy: Molar mass dependence of surface ordering"
Macromolecules **36**, 8717-8727 (2003)
- 238) Massalska-Arodz, M.; W. Witko, W. Gorbatschow, L. Hartmann and F. Kremer
"Dynamics of 4-(2-hexyloxy-ethoxy) 4'-cyanobiphenyl Molecules on Approaching a Glass Transition as Studied by Dielectric Spectroscopy"
Acta Physica Polonica A **104**, No. 6 (2003)

- 2004 -

- 239) F. Kremer and R. Stannarius
"Molecular Dynamics of Liquids in confinement"
Bookchapter in "Molecules in Interaction with Surfaces and Interfaces", (Eds.: R. Haberlandt, D. Michel, A. Pöpl and R. Stannarius) (Lect. Notes Physics **Vol. 634**) Springer-Verlag 2004, pp 275-300, ISBN 3-540-20539-X
- 240) R. Stannarius and F. Kremer
"Liquid Crystals in Confining Geometries"
Bookchapter in "Molecules in Interaction with Surfaces and Interfaces", (Eds.: R. Haberlandt, D. Michel, A. Pöpl and R. Stannarius) (Lect. Notes Physics **Vol. 634**) Springer-Verlag 2004, pp 301-336, ISBN 3-540-20539-X
- 241) Serghei, A.; L. Hartmann, P. Pouret, L. Léger and F. Kremer
"Molecular dynamics in thin (grafted) polymer layers"
Colloid & Polymer Science **282**, 946-954 (2004)
- 242) Tsuwi, J.; D. Appelhans, S. Zschoche, P. Friedel and F. Kremer
"Molecular dynamics in poly(ethene-alt-N-alkylmaleimide)s as studied by Broadband Dielectric Spectroscopy"
Macromolecules **37**, 6050-6054 (2004)
- 243) Ngwa, W.; R. Wannemacher, W. Grill, A. Serghei, F. Kremer and T. Kundu
"Voronoi tessellations in thin polymer blend films"
Macromolecules **37**, No. 5, 1691 (2004)

- 2005 -

- 244) Nikonorova, N.A., E.B. Barmatov, D.A. Pebalk, R. Diaz-Calleja and F. Kremer
 "Dielectric relaxation of side-chain liquid crystalline ionomers containing alkaline metal ions"
Macromolecular Chem. Phys. **206**, 1630-1637 (2005)
- 245) Tammer, M., J. Li, A. Komp, H. Finkelmann and F. Kremer
 "FTIR-spectroscopy on segmental reorientation of a nematic elastomer under external mechanical fields"
Macromol. Chem.Phys. **206**, 709-714 (2005)
- 246) Li, Jianjun, M. Tammer, F. Kremer, A. Komp and H. Finkelmann
 "Strain-induced reorientation and mobility in nematic liquid crystalline elastomers as studied by time-resolved FTIR spectroscopy"
Europ. Journ. Phys. E **17**, No.4, 423-428 (2005)
- 247) Serghei, A., H. Huth, M. Schellenberger, C. Schick and F .Kremer
 "Pattern formation in thin polystyrene films induced by an enhanced mobility in ambient air"
Phys. Rev. E **71**, 061801 (2005)
- 248) Serghei, A., Y. Mikhailova, K.-J. Eichhorn, B. Voit and F. Kremer
 "Molecular dynamics of hyper-branched polyesters in the confinement of thin films"
Eur. Phys. Journ. E **17**, 199-202 (2005)
- 249) Tsuwi, J., D. Appelhans, S. Zschoche, R-C. Zhuang, P. Friedel, L. Häußler, B. Voit and F. Kremer
 "Molecular dynamics in fluorinated side-chain MI copolymers as studied by Broadband Dielectric Spectroscopy"
Colloid & Polymer Science **283**, 1321-1333 (2005)
- 2006 -
- 250) Serghei, A. and F. Kremer
 "Unexpected preparative effects on the properties of thin polymer films"
Progress Colloid Polym. Sci. **132**, 33 (2006)
- 251) Gutsche, C.; M. Salomo, Y.W. Kim, R.R. Netz and F. Kremer
 "The flow resistance of single DNA-grafted colloids as measured by Optical Tweezers"
J. Microfluidics and Nanofluidics **2**, No. 5, p. 381-386, DOI: 10.1007/s10404-006-0080-0 (2006)
- 252) Salomo, M.; C. Gutsche, K. Kegler, M. Struhalla, K. Kroy, J. Reinmuth, W. Skokow, C. Immisch and F .Kremer
 "The binding of TmHU to single ds-DNA as observed by Oprtical Tweezers
J. Mol. Biol. **359**, 769-776 (2006)
- 253) Slotta, U.; M. Tammer, F. Kremer, P. Kölsch and T. Scheibel
 "Structural analysis of spider silk films"
Supramolecular Chemistry **18**, No. 59, 65-471 (2006)
- 254) Salomo, M.; K. Kegler, M. Struhalla, J. Reinmuth, W. Skokow, U. Hahn and F. Kremer
 "The elastic properties of single double-stranded DNA chains of different lenght"
J. of Colloid & Polymer Science **284**, No.11, 1325-1331 (2006)
- 255) Holtze, C.; R. Sivaramakrishnan, M. Antonietti, J. Tsuwi, F. Kremer and K. D. Kramer
 "The microwave absorption of emulsions containing aqueous micro- and nanodroplets: A means to optimize microwave heating"
J. of Colloid and Interface Science **302**, 651 – 657 (2006)
- 256) Höfl, S.; F. Kremer, H.W. Spiess, M. Wilhelm and S. Kahle
 "Effect of large amplitude oscillatory shear (LAOS) on the dielectric response of 1,4-cis-polyisoprene"
Polymer **47**, No. 20, 7282-7288 (2006)
- 257) Tsuwi, J.; L. Hartmann, F. Kremer, D. Pospiech, D. Jehnichen and L. Häußler
 "Molecular dynamics in semifluorinated side-chain polyesters as studied by broadband dielectric spectroscopy",
Polymer (for the special issue for Tadeusz Pakula) **47**, 7189-7197 (2006)
- 258) Serghei, A.; Y. Mikhailova, K.-J. Eichhorn, B. Voit and F. Kremer,
 "Discrepancies in the characterization of the glass transition in thin films of hyperbranched polyesters"
J. Polym. Sci. B: Polym Physics **44**, 3006-3010 (2006)
- 259) Serghei, A.; M. Tress and F. Kremer
 "Confinement effects on the relaxation time distribution of the dynamic glass transition in ultra-thin polymer films"
Macromolecules **39**, No. 26, 9385-9387 (2006)
- 260) Kremer, F.
 "Broadband Dielectric Spectroscopy to study the molecular dynamics of polymers having different molecular architectures". Chapter in "Physical properties of polymer handbook".
 J. Mark (Ed.) Chapt. 21, pp.385-394, Springer-Verlag (2006)
- 261) Serghei, A. and F. Kremer
 "Molecular dynamics in thin polymer films", chapter 1 in *Fractals, diffusion and relaxation in disordered*

complex systems, Advances in Chemical Physics ACP, edited by Stuart A. Rice (guest editors: W.T. Coffey, Y.P. Kalmykov), John Wiley & Sons, Inc., **Vol. 11** (2006)

- 262) Serghei, A. and F. Kremer
"Broadband Dielectric Spectroscopy on ultra-thin organic layers having one free (upper) interface"
Review of Scientific Instruments **77**, 116108 (2006).

- 2007 -

- 263) Kegler, K.; M. Salomo and F. Kremer
"Forces of interaction between DNA-grafted colloids: an Optical Tweezer measurement"
Physical Review Letters **98**, 058304 (2007)
- 264) Tsuwi, J.; D. Pospiech, D. Jehnichen, L. Häußler and F. Kremer
"Molecular dynamics in semifluorinated side-chain polysulfone as studied broadband dielectric spectroscopy"
Special issue of *J Appl. Polym. Sci.* (M. Kryszewski issue) **105**, 201-207 (2007)
- 265) Massalska-Arodz, M.; J. Krawczyk, B. Procyk and F. Kremer
"Dielectric relaxation studies of 4-(2-hexyloxyethoxy)4'-cyanobiphenyl (6O2OCB) enclosed in SiO₂ nanopores"
Phase Transitions **80**, No. 6-7, 687-695 (2007)
- 266) Gutsche, C.; U.F.Keyser, K. Kegler, F. Kremer and P. Linse
"Forces between single pairs of charged colloids in aqueous salt solutions"
Phys. Rev. E **76**, 031403 (2007)
- 267) Jehnichen, D.; D. Pospiech, L. Häußler, P. Friedel, S.S. Funari, J. Tsuwi and F. Kremer
"Microphase separation in semifluorinated polyesters"
Z. Kristallogr. Suppl. **26**, 605-610 (2007)
- 268) Serghei, A.; L. Hartmann and F. Kremer
"Molecular dynamics in thin films of isotactic poly(methylmethacrylate)-revisited"
J. of Non-Crystalline Solids **353**, No. 47-51, 4330-4333 (2007)
- 269) Salomo M.; U. Keyser, K. Kegler, M. Struhalla, C. Immich, U. Hahn and F. Kremer
"Kinetics of TmHU binding to DNA as observed by optical tweezers"
Microscopy Research & Technique **70**, No. 11, 938-943 (2007)
- 270) Papadopoulos, P.; J.Sölder, F. Kremer
"Structure-property relationships in major ampullate spider silk as deduced from polarized FTIR spectroscopy"
Eur. Phys. J. E **24**, 193-199 (2007)
- 271) Chmelik, C.; A. Varma, L. Heinke, D. B. Shah, J. Kärger, F. Kremer, U. Wilczok, and W. Schmidt
"Effect of Surface Modification on Uptake Rates of Isotubane in MFI Crystals: An Infrared Microscopy Study"
Chem. Mater. **19**, 6012-6019 (2008)
- 272) Huth, H.; A.A. Minakov, A. Serghei, F. Kremer, C. Schick
"Differential AC-Chip Calorimeter for Glass Transition Measurements in Ultra thin Polymeric Films"
Eur. Phys. J. ST **141**, 1153 (2007)

- 2008 -

- 273) Zorn, R.; M. Mayorova, D. Richter, A. Schönhals, L. Hartmann, F. Kremer, B. Frick
"Effect of nanoscopic confinement on the microscopic dynamics of glass-forming liquids and polymers studied by inelastic neutron scattering", *AIP Conf. Proc.* **982**, 79–84 (2008)
- 274) Kegler, K.; M. Konieczny, G. Dominguez-Espinoza, C. Gutsche, M. Salomo, F. Kremer and C. N. Likos
"Polyelectrolyte-Compression Forces between Spherical DNA Brushes"
Phys. Rev. Lett. **100**, 118302 (2008)
- 275) Otto, O.; C. Gutsche, F. Kremer, U. F. Keyser
"Optical tweezers with 2.5 kHz bandwidth video detection for single-colloid-electrophoresis"
Rev. Sci. Instr. **79**, 023710 (2008)
- 276) Serghei, A. and F. Kremer,
"Metastable states of arrested glassy dynamics, possibly mimicking confinement effects in thin polymer films"
Macromol. Chem. Phys. **209**, 810 (2008)
- 277) Sangoro Rume, J.; A. Serghei, S. Naumov, P. Galvosas, J. Kärger, C. Wespe, F. Bordusa and F. Kremer
"Charge transport and mass transport in imidazolium based ionic liquids"
Phys. Rev. E **77**, 051202 (2008)
- 278) Serghei, A. and F. Kremer,
"Broadband dielectric studies on the interfacial dynamics enabled by use of nanostructured electrodes"
Rev. Sci. Instrum. **79**, 026101 (2008).
- 279) Serghei, A.; H. Huth, C. Schick, F. Kremer,
"Glassy dynamics in thin polymer layers having a free upper interface"
Macromolecules **41** (10), 3636 (2008).

- 280) Berns, B.; H. Deligöz, B. Tieke and F. Kremer
 "Conductive Composites of Polyurethane Resins and Ionic Liquids"
Macromol. Mater. Eng. **293**, 409-418 (2008)
- 281) Sangoro Rume, J.; C. Iacob, A. Serghei, S. Naumov, P. Galvosas, J. Kärger, C. Wespe, F. Bordusa, A. Stoppa, J. Hunger, R. Buchner, F. Kremer
 "Electrical conductivity and translational diffusion in the 1-butyl-3-methylimidazolium tetrafluoroborate ionic liquid"
J. Chem. Phys. **128**, 214509 (2008)
- 282) Salomo, M.; U. F. Keyser, M. Struhalla, F. Kremer
 "Optical tweezers to study single protein A/Immunglobulin G interaction at varying conditions"
European Biophys. J. **37**, 927-934 (2008)
- 283) Gutsche, C.; F. Kremer, M. Krüger, M. Rauscher, R. Weeber and J. Harting
 "Colloids dragged through a polymer solution: experiment, theory and simulation"
J. Chem. Phys. **129**, 084902 (2008)
- 284) Dominguez-Espinosa, G.; A. Syntska, A. Drechsler, C. Gutsche, K. Kegler, P. Uhlmann, M. Stamm, F. Kremer
 "Optical Tweezers to measure the interaction between Poly(acrylic acid) brushes"
Polymer **49**, 4802-4807 (2008)
- 285) Iacob, C.; J. Sangoro, A. Serghei, S. Naumov, Y. Korth, J. Kärger, C. Friedrich and F. Kremer
 "Charge transport and glassy dynamics in imidazole-based liquids"
J. Chem. Phys. **129**, 234511-1 (2008)

- 2009 -

- 286) Papadopoulos, P., J. Sölder and F. Kremer
 "Hierarchies in the structural organization of spider silk - a quantitative model"
Colloid and Polymer Science **287**, Issue2, 231-236 (2009)
- 287) Sangoro, J. R., C. Iacob, A. Serghei, C. Friedrich and F. Kremer,
 "Universal scaling of charge transport in glass-forming ionic liquids "
Phys. Chem. Chem. Phys. **11**, 913-916 (2009)
- 288) Sangoro, J. R., G. Turky, M. Abdel Rehim, S. Naumov, A. Ghoneim, J. Kärger and F. Kremer.,
 "Charge transport and dipolar relaxation in hyper-branched polyamide amines. Macromolecules"
Macromolecules **42** (5), 1648-1651 (2009)
- 289) Serghei,A., M. Tress and F. Kremer
 The glass transition of thin polymer films in relation to the interfacial dynamics
J. Chem. Phys. **131** 154904 (2009)
- 290) Min, Y., M. Akbulut, J.R. Sangoro, F. Kremer, R.K. Prud'homme, J. Israelachvili
 "Measurement of forces between room temperature ionic liquids between mica surfaces"
J. of Physical Chemistry C **113**, (37) pp.16445-16449 (2009)
- 291) Papadopoulos, P., R. Ene, I. Weidner, F. Kremer,
 "Similarities in the structural organization of major and minor ampullate spider silk"
Macromol. Rapid. Commun. **30**, 851-857 (2009)
- 292) Semenov, I., O. Otto, G. Stober, P.Papadopoulos, U.F. Keyser, and F. Kremer
 "Single colloid electrophoresis"
J. Colloid Interf. Sci. **337**, 260-264 (2009)
- 293) Serghei, A., M. Tress, J. R. Sangoro and F. Kremer,
 "Electrode polarization and charge transport at solid interfaces"
Phys. Rev. B **80** 184301 (2009)
- 294) Ene, R. P. Papadopoulos, F. Kremer
 "Combined structural model of spider dragline silk"
Soft Matter, **5**, 4568-4574 (2009)
- 295) Kim, Y.W., V. Lobaskin, C. Gutsche, F. Kremer, P. Pincus, R.R. Netz
 "Nonlinear response of grafted semiflexible polymers in shear flow"
Macromolecules, **42**, 3650-3655 (2009)
- 296) Kipnusu, W.K., G. Katana, C.M. Migwi, I.V.S. Rathore, J.R. Sangoro, J. Tsuwi, A. Serghei, F. Kremer
 "Molecular dynamics characterization of nandi flame seed cuticle biomaterials"
J. Polym. Mater., **26**, 129 (2009)
- 297) Elmahdy, M.M., A. Drechsler, C. Gutsche, A. Syntska, P. Uhlmann, F. Kremer, M. Stamm
 "Forces between blank surfaces as measured by the colloidal probe technique and by optical tweezers – a comparison"
Langmuir **25**, (22) 12894-12898 (2009)
- 298) Elmahdy, M.M., A. Syntska, A. Drechsler, C. Gutsche, P. Uhlmann, M. Stamm, F. Kremer
 "Forces of interaction between poly(2-vinylpyridine) brushes as measured by optical tweezers"
Macromolecules **42**, 9096-9102 (2009)

- 299) Kremer, F., A. Serghei, J.R. Sangoro, M. Tress and E. U. Mapesa,
 "Broadband dielectric spectroscopy in nao-(bio)-physics."
IEEE Transactions on Dielectrics and Electrical Insulation, (2009) DOI: 10.1109/CEIDP.2009.5377717
- 2010 -
- 300) Krause, C., J.R. Sangoro, C. Iacob and F. Kremer
 "Charge transport and dipolar relaxations in imidazolium-based ionic liquids"
J. Phys. Chem. B, **114**(1), 382-386 (2010)
- 301) Papadopoulos, P., P. Heinze, H. Finkelmann, F. Kremer
 "Electromechanical properties of smectic C* liquid crystal elastomers under shear "
Macromolecules **43** (16) 6666-6670 (2010) DOI:10.1021/ma1005028
- 302) Serghei, A., J. Lutkenhaus, D. Miranda, K. McEnnis, F. Kremer, T.P. Russel
 "Density fluctuations and phase transitions of ferroelectric polymer nanowires"
Small **6**, 16 1822-1826 (2010) DOI: 10.1002/smll.201000562
- 303) Iacob, C., J. R. Sangoro, P. Papadopoulos, T. Schubert, S. Naumov, R. Valiullin, J. Kärger and F. Kremer
 "Charge transport and diffusion of ionic liquids in nanoporous silica membranes"
Phys. Chem. Chem. Phys. **12**, 41 p.13798-13803 (2010), DOI:10.1039/c004546b
- 304) Mapesa, E.U., M. Erber, M. Tress, K.-J. Eichhorn, A. Serghei, B. Voit and F. Kremer
 "Glassy dynamics in nanometer thin layers of polystyrene"
Europ. Phys. J. - Special Topics **189**, 173-180 (2010), DOI: 10.1140/epjst/e2010-01320-2
- 305) Erber, M., M. Tress, E.U. Mapesa, A. Serghei, K.-J. Eichhorn, B. Voit and F. Kremer
 "Glassy dynamics and glass transition in thin polymer layers of PMMA deposited on different substrates"
Macromolecules **43**, 7729 (2010), DOI: 10.1021/ma100912r
- 306) Ene, R., P. Papadopoulos, F. Kremer
 "Partial deuteration probing structural changes in supercontracted spider silk"
Polymer **51**, 21, 4784-4789 (2010) DOI:10.1016/j.polymer.2010.08.061
- 307) Drechsler, A., A. Synytska, P. Uhlmann, M. M. Elmahdy, M. Stamm, F. Kremer
 "Interaction forces between microsized silica particles and weak polyelectrolyte brushes at varying PH and salt concentration"
Langmuir **26** (9) 6400-6410 (2010) DOI:10.1021/la904103z
- 308) Tress, M., M. Erber, E.U. Mapesa, H. Huth, J. Müller, A. Serghei, C. Schick, K.-J. Eichhorn, B. Voit and F. Kremer
 "Glassy Dynamics and Glass Transition in Nanometric Thin Layers of Polystyrene"
Macromolecules **43**, 9937-9944 (2010) DOI: 10.1021/ma102031k
- 309) Elmahdy, M., C. Gutsche, F. Kremer
 "Forces within single pairs of charged colloids in aqueous solutions of ionic liquids as studied by optical tweezers"
J Phys Chem. C **114**, 19452-19458 (2010)
- 310) W. Kossack, P. Papadopoulos, P. Heinze, H. Finkelmann, F. Kremer
 "Transition Moment Orientation Analysis on a Smectic C Liquid Crystalline Elastomer film"
Macromolecules **43**, 18, 7532-7539 (2010), DOI:10.1021/ma101121f
- 311) Semenov, I., P.Papadopoulos, G. Stober, and F.Kremer
 "Concentration- and pH-dependent electrophoretic mobility as studied by Single Colloid Electrophoresis"
J. Phys.: Condens. Matter **22**, 494109 (2010)
- 312) Zech,O., J. Hunger, J.R. Sangoro, C. Iacob, F. Kremer, W. Kunz, R. Buchner
 "Correlation between polarity parameters and dielectric properties of [Na][TOTO] – a sodium ionic liquid"
Phys. Chem. Chem. Phys. **12**, 14341-14350 (2010) DOI:10.1039/c0cp00840k
- 313) Turky, G., J.R. Sangoro, M. Abdel-Rehim, F. Kremer,
 "Secondary Relaxations and Electrical Conductivity in Hyperbranched Polyester Amides"
J. Polym. Sci. B: Polym. Phys. **48**, 14, 1651-1657 (2010) DOI:10.1002/polb.21996
- 2011 -
- 314) Wagner, C., C. Olbrich, H. Brutzer, M. Salomo, U. Kleinekathöfer, U.F. Keyser, F. Kremer
 "DNA condensation by TmHU studied by optical tweezers, AFM and molecular dynamics simulations"
Journal of Biological Physics **37**, 117-131 (2011). DOI: 10.1007/s10867-010-9203-7
- 315) Gutsche, C., M.M. Elmahdy, K. Kegler, I. Semenov, T. Stangner, O. Otto, O. Ueberschär, U.F. Keyser, M. Krüger, M. Rauscher, R. Weber, J. Harting, Y.W. Kim, V. Lobaskin, R.R. Netz and F. Kremer
 "Micro-rheology on (polymer-grafted) colloids using Optical Tweezers"
J. of Phys. Condensed Mater **23**, 184114-184131 (2011) DOI:10.1088/0953-8984/23/18/184114
- 316) Sangoro, J. R., Iacob, C., Naumov, S., Hunger, J., Rexhausen, H., Valiullin, R., Strehmel, V., Buchner, R., Kärger, J., and Kremer, F.
 "Diffusion in ionic liquids: the interplay between molecular structure and dynamics".
Soft Matter **7**, 1678-1681 (2011) DOI:10.1039/C0SM01404D

- 317) Ueberschär, O., C. Wagner, T. Stangner, C. Gutsche, F. Kremer
 "The effective hydrodynamic radius of single DNA-grafted colloids as measured by fast Brownian motion analysis"
Polymer **52**, 1829-1836 (2011) DOI:10.1016/j.polymer.2011.02.001
- 318) Sangoro, J.R., C. Iacob, R. Valiullin, C. Friedrich, J. Kärger, F. Kremer
 "Rotational and translational diffusion in glass-forming N,N,-diethyl-3-methylbenzamide (DEET)".
Soft Matter, **7**, (22) 10565-10568 (2011) DOI: 10.1039/C1SM06377D.
- 319) Spiess, K., R. Ene, C. Keenan, J. Senker, F. Kremer, T. Scheibel
 "Impact of initial solvent on thermal stability and mechanical properties of recombinant spider silk films"
J. Mater. Chem., **21**, 13594-13604 (2011) DOI: 10.1039/c1jm11700a
- 320) Wagner, C., D. Singer, O. Ueberschär, T. Stangner, C. Gutsche, R. Hoffmann, F. Kremer
 "Dynamic force spectroscopy on the binding of monoclonal antibodies and tau peptides"
Soft Matter **7**, 4370-4378 (2011) DOI: 10.1039/c0sm01414a
- 321) Ueberschär, O., C. Wagner, T. Stangner, K. Kühne, C. Gutsche, F. Kremer
 "Drag reduction by DNA-grafting for single microspheres in a dilute λ -DNA solution"
Polymer **52**, 4021-4032 (2011) DOI: 10.1016/j.polymer.2011.06.057
- 322) Hagenau, A., P. Papadopoulos, F. Kremer, T. Scheibel,
 "Mussel collagen molecules with silk-like domains as load-bearing elements in distal byssal threads"
Journal of Structural Biology **175** (3) 339-347 (2011) DOI: 10.1016/j.jsb.2011.05.016
- 323) Wagner, C., T. Stangner, C. Gutsche, O. Ueberschär, F. Kremer
 "Optical tweezers setup with optical height detection and active height regulation under white light illumination"
Journal of Optics **13**, 115302 (2011) DOI: 10.1088/2040-8978/13/11/115302.
- 324) Ene, R., P. Papadopoulos, F. Kremer
 "Supercontraction in Nephila spider dragline silk – Relaxation into equilibrium state"
Polymer **52**, 6056–6060 (2011) DOI: 10.1016/j.polymer.2011.10.056
- 325) Kossack, W., P. Papadopoulos, M. Parkinson, F. Prades, F. Kremer
 "IR Transition moment orientational analysis on semi-crystalline polyethylene films"
Polymer **52**, 6061-6065 (2011) DOI: 10.1016/j.polymer.2011.10.051.
- 326) Kohagen, M., M. Brehm, Y. Lingscheid, R. Giernoth, C. Iacob, J.R. Sangoro, R. Valiullin, J. Kärger, F. Kremer, and B. Kirchner
 "How hydrogen bonds influence the mobility of imidazolium- based ionic liquids: A combined theoretical and experimental study of 1-n-butyl-3-methylimidazolium bromide"
J. Phys. Chem. B **115**, (51) 15280-15288 (2011) DOI:10.1021/jp206974h
- 327) Ene R., P. Papadopoulos, F. Kremer
 "Quantitative analysis of infrared absorption coefficient of spider silk fibers"
Vib. Spectrosc. **57**, 207–212 (2011) DOI: 10.1016/j.vibspec.2011.07.005
- 2012 -
- 328) Iacob, C., J. R. Sangoro, W.K. Kipnusu, J. Kärger, F. Kremer
 "Enhanced charge transport in nano-confined ionic liquids"
Soft Matter **8**, 289-293 (2012) DOI:10.1039/C1SM06581E
- 329) Ueberschär, O., C. Wagner, T. Stangner, C. Gutsche, F. Kremer
 "A novel video-based microsphere localozation algorithm for low contrast silica particles under white light illumination"
Optics & Lasers in Engineering **50**, 423-439 (2012) DOI: 10.1016/j.optlaseng.2011.10.012
- 330) Sangoro, J.R., F. Kremer
 "Charge transport and glassy dynamics in ionic liquids"
Acc. Chem. Res. **45** (4), 525–532 (2012) DOI: 10.1021/ar2001809
- 331) Jasiurkowska, M., W. Kossack, R. Ene, C. Iacob, W. K. Kipnusu, P. Papadopoulos, J. R. Sangoro, M. Massalska-Arodz, F. Kremer
 "Molecular dynamics and morphology in confined 4-heptyl-4-isothiocyanato biphenyl liquid crystals"
Soft Matter **8**, 5194-5200 (2012) DOI: 10.1039/C2SM07258K
- 332) Sangoro, J.R., M. Mierzwa, C. Iacob, M. Paluch, F. Kremer
 "Brownian dynamics determine the universality of charge transport in ionic liquids"
RSC Adv. **2**, 5047-5050 (2012) DOI: 10.1039/C2RA20560B
- 333) Kipnusu, W.K., W. Kossack, C. Iacob, M. Jasiurkowska, J.R. Sangoro, F. Kremer
 "Molecular Order and Dynamics of Tris(2-ethylhexyl)phosphate Confined in Uni-Directional Nanopores"
Z. Phys. Chem. **226** No. 7-8, pp. 797-805 (2012) DOI: 10.1524/zpch.2012.0287
- 334) Ene, R., C. Krywka, S.-G. Kang, P. Papadopoulos, M. Burghammer, E. Di Cola, M. Müller, F. Kremer
 "Structure changes in Nephila dragline: The influence of pressure"
Polymer **53**, 5507-5512 (2012) DOI: 10.1016/j.polymer.2012.09.045
- 335) Schönhals, A., F. Kremer
 "Amorphous Polymers" in:

"Polymer Science: A Comprehensive Reference" Vol. 1, pp. 201-226, Matyjaszewski K. and Möller M. (Eds)
Elsevier B.V., Amsterdam (2012) ISBN: 978-0-444-53349-4

- 336) Kremer F., E. U. Mapesa, M. Tress, M. Reiche
"Molecular Dynamics of Polymers at Nanometric Length Scales: From Thin Layers to Isolated Coils" in:
"Recent Advances in Broadband Dielectric Spectroscopy", Y. P. Kalmykov (Eds.)
NATO Science for Peace and Security Series B: Physics and Biophysics, Chapter 12,
Springer (2012) DOI 10.1007/978-94-007-5012-8, ISBN: 978-9-400-75011-1
- 337) Serghei A., J.R. Sangoro, F. Kremer
"Broadband Dielectric Spectroscopy on electrode polarization and its scaling" in:
"Electrical Phenomena at Interfaces and Biointerfaces: Fundamentals in Nano- Bio- and Environmental Sciences", Chapter 15, Hiroyuki Ohshima (Eds.)
John Wiley&Sons, Inc. New York, (2012) DOI: 10.1002/9781118135440.ch15, ISBN: 9780470582558
- 338) Ueberschär O., M. Krüger, C. Gutsche, T. Stangner, C. Wagner, K. Kühne, F. Kremer
"Microfluidic mobility of single (DNA-grafted) colloids in dilute DNA suspensions"
Polymer **53**, 5760-5770 (2012) DOI: 10.1016/j.polymer.2012.09.045
- 339) Drechsler A., A. Syntyska, P. Uhlmann, M. Stamm, F. Kremer
"Tuning the Adhesion of Silica Microparticles to a Poly(2-vinyl 2 pyridine) Brush: An AFM Force Measurement Study"
Langmuir **28** (44), 15555-15565 (2012) DOI: 10.1021/la303131d

- 2013 -

- 340) Papadopoulos P., W. Kossack, F. Kremer
"Intra- and inter-molecular dynamics in glass-forming liquids"
Soft Matter **9**, 1600-1603 (2013) DOI: 10.1039/c2sm27249k
- 341) Semenov, I., S. Raafatnia, M. Sega, V. Lobaskin, C. Holm, F. Kremer
"Electrophoretic mobility and charge inversion of a colloidal particle studied by single-colloid electrophoresis and molecular dynamics simulations"
Physical Review **87**, 022302 (2013) DOI: 10.1103/PhysRevE.87.022302
- 342) Kaminski, K., W. Kipnusu, K. Adrianowicz, E. Mapesa, C. Iacob, M. Jasurkowska, P. Włodarczyk, K. Grzybowska, M. Paluch, F. Kremer
"Comparative study on the molecular dynamics of a series of polypropylene glycols"
Macromolecules **46** (5), 1973-1980 (2013) DOI: 10.1021/ma302611x
- 343) Kipnusu W. K., W. Kossack, C. Iacob, P. Zeigermann, M. Jasurkowska, J. R. Sangoro, R. Valiullin, F. Kremer
"The interplay between inter- and intramolecular dynamics in a series of alkylcitrates"
Soft Matter **9**, 4681-4686 (2013) DOI: 10.1039/C3SM27670H
- 344) Anton M., W. Kossack, C. Gutsche, R. Figuli (Ene), P. Papadopoulos, J. Ebad-Allah, C. Kuntscher, F. Kremer
"Pressure-Dependent FTIR-Spectroscopy on the Counterbalance between External and Internal Constraints in Spider Silk of Nephila pilipes"
Macromolecules **46**, 4919-4923 (2013) DOI: 10.1021/ma400498v
- 345) Stangner T., D. Singer, C. Wagner, C. Gutsche, O. Ueberschär, R. Hoffmann, F. Kremer
"FACS-sorted particles reduce the data variance in optical tweezers assisted dynamic force spectroscopy measurements"
Physical Biology **10**, 046004 (6pp) (2013) DOI:10.1088/1478-3975/10/4/046004
- 346) Mapesa, E.U., M. Tress, G. Schulz, H. Huth, C. Schick, M. Reiche, F. Kremer
"Segmental and chain dynamics in nanometric layers of poly (cis-1,4-isoprene) as studied by Broadband Dielectric Spectroscopy and temperature-modulated Calorimetry"
Soft Matter **9** (44), 10592–10598 (2013) DOI: 10.1039/C3SM51311D
- 347) Tress, M., E.U. Mapesa, W.K. Kipnusu, M. Reiche, F. Kremer
"Glassy Dynamics in Condensed Isolated Polymer Chains"
Science **341** (6152) 1371-1374 (2013) DOI: 10.1126/science.1238950
- 348) Griffin P.J., J. R. Sangoro, Y. Wang, A. P. Holt, V. N. Novikov, A. P. Sokolov, Z. Wojnarowska, M. Paluch, F. Kremer
"Dynamic crossover and the Debye–Stokes–Einstein relation in liquid N,N-diethyl-3-methylbenzamide (DEET)"
Soft Matter **9**, 10373-10380 (2013) DOI: 10.1039/c3sm51565f
- 349) Stangner T., C. Wagner, D. Singer, S. Angioletti-Uberti, C. Gutsche, J. Dzubiella, R. Hoffmann, F. Kremer
"Determining the Specificity of Monoclonal Antibody HPT-101 to tau-Peptides with Optical Tweezers"
ACS Nano **7** (12), 11388-11396 (2013) DOI: 10.1021/nn405303u
- 350) Kossack W., K. Adrianowicz, M. Tarnacka, W.K. Kipnusu, M. Dulski, E.U. Mapesa, K. Kaminski, S. Pawlus, M. Paluch, F. Kremer
"Glassy dynamics and physical aging in fucose saccharides as studied by infrared- and broadband

dielectric spectroscopy"

Phys. Chem. Chem. Phys. **15**, 20641-20650 (2013) DOI: 10.1039/c3cp52551a

- 351) Kipnusu, W.K., M.M. Elmahdy, M. Tress, M. Fuchs, E.U. Mapesa, D.M. Smilgies, J. Zhang, C.M. Papadakis, F. Kremer
"Molecular Order and Dynamics of Nanometric Thin Layers of Poly(styrene-*b*-1,4-isoprene) Diblock Copolymers"
Macromolecules **46**, 9729–9737 (2013) DOI: 10.1021/ma4019334
- 352) Solar, M., E.U. Mapesa, F. Kremer, K. Binder, W. Paul
"The dielectric α -relaxation in polymer films: A comparison between experiments and atomistic simulations"
EPL, **104**, 66004 (2013) DOI: 10.1209/0295-5075/104/66004

- 2014 -

- 353) Griffin, P.J., A.P. Holt, Y. Wang, V.N. Novikov, J.R. Sangoro, F. Kremer, A.P. Sokolov
"Interplay Between Hydrophobic Aggregation and Charge Transport in the Ionic Liquid Methyltriocetylammonium Bis(trifluoromethylsulfonyl)imide"
J. Phys. Chem. B **118**, 783-790 (2014) DOI: 10.1021/jp412365n
- 354) Sangoro, J.R., C. Iacob, A.L. Agapov, Y. Wang, S. Berdzinski, H. Rexhausen, V. Strehmel, C. Friedrich, A.P. Sokolov, F. Kremer
"Decoupling of ionic conductivity from structural dynamics in polymerized ionic liquids"
Soft Matter **10**, (20) 3536-402014 (2014) DOI: 10.1039/c3sm53202j
- 355) Kossack, W., W.K. Kipnusu, M. Dulski, K. Adrjanowicz, E. Kaminska, E.U. Mapesa, M. Tress, K. Kaminski, F. Kremer
"The kinetics of mutarotation in L-fucose as monitored by dielectric and infrared spectroscopy"
J. Chem. Phys. **140**, 215101 (2014) DOI: 10.1063/1.4880718
- 356) Mapesa, E.U., L. Popp, W.K. Kipnusu, M. Tress, F. Kremer
"Molecular dynamics in 1- and 2-D confinement as studied for the case of poly(cis-1,4-isoprene)"
Soft Materials **12**, 22-30 DOI: 10.1080/1539445X.2014.928320
- 357) Mahmood, N., A.M. Anton, G. Gupta, T. Babur, K. Knoll, T. Thurn-Albrecht, F. Kremer, M. Beiner, R. Weidisch
"Influence of shear processing on morphology orientation and mechanical properties of styrene butadiene triblock copolymers"
Polymer **55**, 3782-3791 (2014) DOI: 10.1016/j.polymer.2014.05.062
- 358) Tress, M., E.U. Mapesa, W. Kossack, W.K. Kipnusu, M. Reiche, F. Kremer
"Molecular dynamics of condensed (semi-) isolated polymer chains" in: "Dynamics in Geometrical Confinement", F. Kremer (Ed.)
Springer-Verlag (2014) ISBN 978-3-319-06099-6
- 359) Mapesa, E.U., M. Tress, M. Reiche, F. Kremer
"Molecular dynamics of poly(cis-1,4-isoprene) in 1- and 2-dimensional confinement" in: "Dynamics in Geometrical Confinement", F. Kremer (Ed.)
Springer-Verlag (2014) ISBN 978-3-319-06099-6
- 360) Kipnusu, W.K., C. Iacob, M. Jasiurkowska-Delaporte, W. Kossack, J.R. Sangoro, F. Kremer
"Rotational diffusion of guest molecules confined in uni-directional nanopores" in: "Dynamics in Geometrical Confinement", F. Kremer (Ed.)
Springer-Verlag (2014) ISBN 978-3-319-06099-6
- 361) Iacob, C., J.R. Sangoro, W.K. Kipnusu, F. Kremer
"Rotational and Translation Diffusion of Ionic Liquids in Silica Nanopores" in: "Dynamics in Geometrical Confinement", F. Kremer (Ed.)
Springer-Verlag (2014) ISBN 978-3-319-06099-6
- 362) Mapesa, E.U., M. Tarnacka, E. Kaminska, K. Adrjanowicz, M. Dulski, W. Kossack, M. Tress, W.K. Kipnusu, K. Kaminski, F. Kremer
"Molecular dynamics of itraconazole confined in thin supported layers"
RSC Adv. **4**, 28432 (2014) DOI: 10.1039/c4ra01544d
- 363) Kipnusu, W.K., P. Zeigermann, C. Iacob, F. Kremer, M. Schoen, M.G. Mazza, R. Valiullin
"Experimental evidence of enhanced transport in supernematics"
Soft Condensed Matter (2014) arXiv:1406.5868v1

- 2015 -

- 364) Kremer, F., M. Treß, E.U. Mapesa
"Glassy dynamics and glass transition in nanometric layers and films: A silver lining on the horizon"
Journal of Non-Crystalline Solids **407** 277-283 (2015) DOI: 10.1016/j.jnoncrysol.2014.08.016
- 365) Anton, A.M., C. Gutsche, W. Kossack, F. Kremer
"Methods to determine the pressure dependence of the molecular order parameter in (bio) macromolecular fibres"
Soft Matter **11**, 1158-1164 (2015) DOI: 10.1039/C4SM01142B

- 366) Kipnusu, W.K., M.M. Elmahdy, E.U. Mapesa, J. Zhang, W. Böhlmann, D.-M. Smilgies, C.M. Papadakis, F. Kremer
 "Structure and Dynamics of Asymmetric Poly(styrene-b-1,4-isoprene) Diblock Copolymer under 1D and 2D Nanoconfinement"
ACS Appl. Mater. Interfaces, **7**, 12328–12338 (2015) DOI: 10.1021/am506848s
- 367) Griffin, P.J., A.P. Holt, K. Tsunashima, J.R. Sangoro, F. Kremer and A. P. Sokolov
 "Ion transport and structural dynamics in homologous ammonium and phosphonium-based room temperature ionic liquids"
The Journal of Chemical Physics **142**, 084501 (2015) DOI: 10.1063/1.4913239
- 368) Neubauer, N., R. Winkler, M. Tress, P. Uhlmann, M. Reiche, W.K. Kipnusu, F. Kremer
 "Glassy dynamics of Poly(2-Vinyl-Pyridine) brushes with varying grafting density"
Soft Matter **11**, 3062-62015 (2015) DOI: 10.1039/C5SM00213C
- 369) Anton, A.M., R. Steyrleuthner, W. Kossack, D. Neher, F. Kremer
 "Infrared transition moment orientational analysis (IR-TMOA) on the structural organization of the distinct molecular subunits in thin layers of a high mobility n-type copolymer"
J. Am. Chem. Soc., **137** (18), 6034-6043 (2015) DOI: 10.1021/jacs.5b01755
- 370) Kathrein C.C., W.K. Kipnusu, F. Kremer, A. Böker
 "Birefringence Analysis of the Effect of Electric Fields on the Order–Disorder Transition Temperature of Lamellae Forming Block Copolymers"
Macromolecules **48**, 3354-3359 (2015) DOI: 10.1021/acs.macromol.5b00512
- 371) Dünki, S.J., M. Tress, F. Kremer, S.Y. Ko, F.A. Nüesch, C.-D. Varganici, C. Raclesd, D.M. Opris
 "Fine-tuning of the dielectric properties of polysiloxanes by chemical modification"
RSC Advances **5**, 50054-50062 (2015) DOI: 10.1039/c5ra07412f
- 372) Kipnusu, W.K., M. Elsayed, W. Kossack, S. Pawlus, K. Adrianowicz, M. Tress, E.U. Mapesa, R. Krause-Rehberg, K. Kaminski, F. Kremer
 "Confinement for More Space: A Larger Free Volume and Enhanced Glassy Dynamics of 2-Ethyl-1-hexanol in Nanopores"
J. Phys. Chem. Lett. **6**, 3708–3712 (2015) DOI: 10.1021/acs.jpclett.5b01533
- 373) Stangner T., S. Angioletti-Uberti, D. Knappe, D. Singer, C. Wagner, R. Hoffmann, F. Kremer
 "Epitope mapping of monoclonal antibody HPT-101: a study combining dynamic force spectroscopy, ELISA and molecular dynamics simulations"
Phys. Biol. **12**, 066018 (2015) DOI: 10.1088/1478-3975/12/6/066018

- 2016 -

- 374) Anton, A.M., R. Steyrleuthner, W. Kossack, D. Neher, F. Kremer
 "Spatial Orientation and Order of Structure-Defining Subunits in Thin Films of a High Mobility n-Type Copolymer"
Macromolecules **49**, 1798-1806 (2016) DOI: 10.1021/acs.macromol.5b02420
- 375) Frenzel, F., M. Y. Folikumah, M. Schulz, A.M. Anton, W.H. Binder, F. Kremer
 "Molecular Dynamics and Charge Transport in Polymeric Polyisobutylene-Based Ionic Liquids"
Macromolecules **49**, 2868-2875 (2016) DOI: 10.1021/acs.macromol.6b00011
- 376) Kossack, W., A. Seidlitz, T. Turn-Albrecht, F. Kremer
 "Interface & confinement induced order and orientation in thin films of Poly- ϵ -caprolactone"
Macromolecules, **49**, 3442-3451 (2016) DOI: 10.1021/acs.macromol.6b00473
- 377) Holländer L., W. Kossack, M. Kollosche, W. Wirges, F. Kremer, R. Gerhard
 „Influence of the remanent polarisation on the liquid crystal alignment in composite films of ferroelectric poly(vinylidene fluoride-trifluoroethylene) and a cyanobiphenyl-based liquid crystal“
Liquid Crystals, **43**, 1514-1521 (2016) DOI: 10.1080/02678292.2016.1185174
- 378) Schneider D., N. Gomopoulos, C.Y. Koh, P. Papadopoulos, F. Kremer, E.L. Thomas, G. Fytas
 "Nonlinear control of high-frequency phonons in spider silk"
Nature Materials **15**, 1079-1083 (2016) DOI: 10.1038/NMAT4697
- 379) Neubauer N., M. Treß, R. Winkler, E.U. Mapesa, W.K. Kipnusu, P. Uhlmann, F. Kremer
 „Molecular Dynamics of Swollen Poly(2-vinylpyridine) Brushes“
Macromolecules, **49** (16) 6101-6105 (2016) DOI: 10.1021/acs.macromol.6b00363
- 380) Stangner T., C. Wagner, C. Gutsche, K. Stangner, D. Singer, S. Angioletti-Uberti, F. Kremer
 „Probing Receptor-Ligand Interactions on a Single Molecule Level Using Optical Tweezers“ In:
 „Encyclopedia of Biocolloid and Biointerface Science“
 Edited by Hiroyuki Ohshima, Volume 2, First Edition
John Wiley & Sons Inc; 915-932 (2016) DOI: 10.1002/9781119075691.ch74

- 2017 -

- 381) Kipnusu W.K., M. Elsayed, R. Krause-Rehberg, F. Kremer
 "Glassy dynamics of polymethylphenylsiloxane in one-and two-dimensional nanometric confinement-a

comparison"

J. Chem. Phys. **146**, 203302 (2017) DOI: 10.1063/1.4974767

- 382) Kossack, W., A. Seidlitz, T. Thurn-Albrecht, F. Kremer
„Molecular Order in Cold Drawn, Strain-Recrystallized Poly(ϵ -Caprolactone)“
Macromolecules **50** (3), 1056-1065 (2017), DOI: 10.1021/acs.macromol.6b02714
- 383) Frenzel F., R. Guterman, M. Anton, J. Yuan, F. Kremer
„Molecular Dynamics and Charge Transport in Highly Conductive Polymeric Ionic Liquids“
Macromolecules **50** (10), 4022-4029 (2017) DOI: 10.1021/acs.macromol.7b00554
- 384) Anton M., Heidebrecht A., Mahmood N., Beiner M., Scheibel T., Kremer F.
„Foundation of the Outstanding Toughness in Biomimetic and Natural Spider Silk“
Biomacromolecules **18**, 3954-3962 (2017) DOI: 10.1021/acs.biomac.7b00990
- 385) Ma J., T. Stangner, F. Kremer
„Frequency dependence of the electrophoretic mobility for single colloids as measured using optical tweezers“
Phys. Rev. Fluids **2**, 104306 (2017) DOI: 10.1103/PhysRevFluids.2.104306
- 386) Kossack, W., M. Schulz, T. Thurn-Albrecht, J. Reinmuth, V. Skokow, F. Kremer
„Temperature-dependent IR-transition moment orientational analysis applied to thin supported films of poly- ϵ -caprolactone“
Soft Matter **13**, 9211-9219 (2017) DOI: 10.1039/c7sm01988b

- 2018 -

- 387) Krautwald-Junghanns, M.-E., K. Cramer, B. Fischer, A. Förster, R. Galli, F. Kremer, E. U. Mapesa, S. Meissner, R. Preisinger, G. Preus, C. Schnabel, G. Steiner, T. Bartels
„Current approaches to avoid the culling of day-old male chicks in the layer industry, with special reference to spectroscopic methods“
Poul Sci. **97** (3), 749-757, (2018) DOI: 10.3382/ps/pex389
- 388) Tress, M., M. Vielhauer, P. J. Lutz, R. Mülhaupt, F. Kremer
„Crystallization-Induced Confinement Enhances Glassy Dynamics in Star-Shaped Polyhedral Oligomeric Polysilsesquioxane-Isotactic Polystyrene (POSS-iPS) Hybrid Material“
Macromolecules **51**, 504 - 511 (2018) DOI: 10.1021/acs.macromol.7b02137
- 389) Jasiurkowska-Delaporte, M., W. Kossack, W. Kipnusu, J. Sangoro, C. Iacob, F. Kremer
„Glassy dynamics of two poly(ethylene glycol) derivatives in the bulk and in nanometric confinement as reflected in its inter- and intra-molecular interactions“
The Journal of Chemical Physics **149**, 064501 (2018) DOI: 10.1063/1.5039518
- 390) Senbin Chen, F. Frenzel, B. Cui, F. Gao, A. Campanella, A. Funtan, F. Kremer, S.S.P. Parkinc, W.H. Binder
„Gating effects of conductive polymeric ionic liquids“
J. Mater. Chem. C **6**, 8242 (2018) DOI: 10.1039/c8tc01936c

- 2019 -

- 391) Frenzel, F., P. Borchert, M. Anton, V. Strehmel, F. Kremer
"Charge Transport and Glassy Dynamics in Polymeric Ionic Liquids as reflected by its Inter- and Intramolecular Interactions"
Soft Matter **15**, 1605-1618 (2019) DOI: 10.1039/c8sm02135j
- 392) Kipnusu, W.K., M.M. Elmahdy, M. Elsayed, R. Krause-Rehberg, F. Kremer
„Counterbalance between Surface and Confinement Effects As Studied for Amino-Terminated Poly(propylene glycol) Constraint in Silica Nanopores“
Macromolecules, **52** (4), 1864-1873 (2019) DOI: 10.1021/acs.macromol.8b02687
- 393) Kossack, W., F. Kremer
„Banded spherulites and twisting lamellae in Poly- ϵ -Caprolactone“
Colloid Polym Sci. **97**, 771-779 (2019) DOI: 10.1007/s00396-019-04503-8
- 394) Tempelman, K., J.A. Wood, F. Kremer, N.E. Benes
„Relaxation Dynamics of Thin Matrimid 5218 Films in Organic Solvents“
J. Phys. Chem. B, **123** (18), 4017-4024 (2019) DOI: 10.1021/acs.jpcb.9b00688
- 395) Karsthof, R., M. Grundmann, A.M. Anton, F. Kremer
„Polaronic interacceptor hopping transport in intrinsically doped nickel oxide“
Phys. Rev. B, **99**, 235201 (2019) DOI: 10.1103/PhysRevB.99.235201

- 2020 -

- 396) Wang, Z., Y. Cang, F. Kremer, E.L. Thomas, G. Fytas
"Determination of the Complete Elasticity of Nephila pilipes Spider Silk"
Biomacromolecules, **21**, 1179-1185 (2020) DOI: 10.1021/acs.biomac.9b01607
- 397) Anton, A.M., E. Zhuravlev, W. Kossack, R. Andrianov, C. Schick, F. Kremer
„Fingerprints of Homogeneous Nucleation and Crystal Growth in Polyamide 66 as Studied by Combined Infrared Spectroscopy and Fast Scanning Chip Calorimetry“
Colloid and Polymer Science **298**, 697-706 (2020) DOI: 10.1007/s00396-020-04666-9

398) R. Karsthof, R., A.M. Anton, F. Kremer, M. Grundmann
„Nickel vacancy acceptor in nickel oxide: Doping beyond thermodynamic equilibrium“
Phys. Rev. Materials **4**, 034601 (2020) DOI: 10.1103/PhysRevMaterials.4.034601

399) Anton, A.M., F. Frenzel, J. Yuan, M.n Tress, F. Kremer
„Hydrogen bonding and charge transport in a protic polymerized ionic liquid“
Soft Matter, **16**, 6091-6101 (2020) DOI: 10.1039/d0sm00337a

- 2021 -

- 400) Mapesa, E.U., N. Shahidi, F. Kremer, M. Doxastakis, J. Sangoro
„Interfacial Dynamics in Supported Ultrathin Polymer Films-From the Solid to the Free Interface“
J. Phys. Chem. Lett. **12**, 117-125 (2021) DOI: 10.1021/acs.jpclett.0c03211
- 401) Gabriel, J.P., M. Tress, W. Kossack,L. Popp, F. Kremer
„Molecular Heterogeneities in the Thermal Expansivity of Polyalcohols“
Journal of Chemical Physics, **154**, 0245032 (2021) DOI: 10.1063/5.0036067
- 402) Tress, M., M. Vielhauer, P. Lutz, R. Mülhaupt, F. Kremer, K. Xing, S. Ge, P. Cao, T. Saito, A. Sokolov
„Polymer Dynamics in Nanostructured Environments: Structure-Property Relations Unraveled by Dielectric Spectroscopy“. In: Woodward; Broadband Dielectric Spectroscopy: A Modern Analytical Technique, Editor(s): William Henry Hunter Woodward, Volume 1375
ACS Symposium Series, **10**, 223-238 (2021) DOI: 10.1021/bk-2021-1375.ch010
- 403) Kipnusu, W.K., M. Tress, F. Kremer
„Glassy Dynamics in Nanometric Confinement of Various Topologies, a Comparison for the Case of Poly(2-vinylpyridine)“ In: Woodward; Broadband Dielectric Spectroscopy: A Modern Analytical Technique, Editor(s): William Henry Hunter Woodward, Volume 1375
ACS Symposium Series, **8**, 185-201 (2021) DOI: 10.1021/bk-2021-1375.ch008
- 404) Reiter, M., A.M. Anton, J. Chang, F. Kremer, M.M. Unterlass, J. Yuan
„Tuning the glass transition of siloxane-based poly(ionic liquid)s towards high ion conductivity“
J Polym Sci., **59**, 1518-1527 (2021) DOI: 10.1002/pol.20210200
- 405) Harrouz, O., F. Frenzel, O. Mosbah, S.M. Terrah, F.Z. Sabi, A. Sahila, N. Zekri, F. Kremer
„Investigation of the Physical Properties of Eucalyptus and Pinus halepensis Essential Oils Using Dielectric Spectroscopy and Gas Chromatography–Mass Spectrometry“
J. Appl. Spectrosc., **88**, 3, 668-673 (2021) DOI: 10.1007/s10812-021-01223-2
- 406) Alam S., V. Nadazdy, T. Vary, C. Fribe, R. Meitzner, J. Ahner, A. Anand, S. Karuthedath, C.S.P. de Castro, C. Göhler, S. Dietz, J. Cann, C. Kästner, A. Konkin, W. Beenken, A.M. Anton, C. Ulbricht, A. Sperlich, M.D. Hager, U. Ritter, F. Kremer, O. Brüggemann, U.S. Schubert, D.A.M. Egbe, G.C. Welch, V. Dyakonov, C. Deibel, F Laquai, H. Hoppe
„Uphill and downhill charge generation from charge transfer to charge separated states in organic solar cells“
J. Mater. Chem. C, **9**, 14463-14489 (2021) DOI: 10.1039/d1tc02351a

- 2022 -

- 407) Kipnusu, W.K., E. Zhuravlev, C. Schick, F. Kremer
„Homogeneous nucleation in polyamide 66, a two-stage process as revealed by combined nanocalorimetry and IR spectroscopy“
Colloid Polym Sci (2022), DOI: 10.1007/s00396-022-04980-4
- 408) Kremer, F., W.K. Kipnusu, M. Fränzl
„Orientation Polarization Spectroscopy-Toward an Atomistic Understanding of Dielectric Relaxation Processes“
Int. J. Mol. Sci. **23**, 8254 (2022) DOI: 10.3390/ijms23158254
- 2023 -
- 409) Kipnusu, W.K., E. Zhuravlev, Chr. Schick, F. Kremer
„The Initial Molecular Interactions in the Course of Enthalpy Relaxation and Nucleation in Poly-ethylene terephthalate (PET) as Monitored by Combined Nanocalorimetry and FTIR Spectroscopy“
Macromol Chem Phys., First published: 01 April 2023 <https://doi.org/10.1002/macp.202200443>