Klaus W StÃ¶ckelhuber

List of Publications by Year
in descending order

119 papers	4,625 citations	109321 35 h-index	110387 64 g-index
124 all docs	124 docs citations	124 times ranked	3584 citing authors

#	Article	IF	Citations
1	Impact of Filler Surface Modification on Large Scale Mechanics of Styrene Butadiene/Silica Rubber Composites. Macromolecules, 2011, 44, 4366-4381.	4.8	318
2	Modified and unmodified multiwalled carbon nanotubes in high performance solution-styreneâ€“butadiene and butadiene rubber blends. Polymer, 2008, 49, 5276-5283.	3.8	273
3	Ionic Modification Turns Commercial Rubber into a Self-Healing Material. ACS Applied Materials & Interfaces, 2015, 7, 20623-20630.	8.0	244
4	Advances in layered double hydroxide (LDH)-based elastomer composites. Progress in Polymer Science, 2014, 39, 594-626.	24.7	213
5	Rubber composites based on graphene nanoplatelets, expanded graphite, carbon nanotubes and their combination: A comparative study. Composites Science and Technology, 2012, 72, 1961-1967.	7.8	167
6	Advanced elastomer nano-composites based on CNT-hybrid filler systems. Composites Science and Technology, 2009, 69, 2135-2143.	7.8	151
7	Contribution of physico-chemical properties of interfaces on dispersibility, adhesion and flocculation of filler particles in rubber. Polymer, 2010, 51, 1954-1963.	3.8	150
8	Coupling activity of ionic liquids between diene elastomers and multi-walled carbon nanotubes. Carbon, 2009, 47, 3313-3321.	10.3	130
9	Strong Strain Sensing Performance of Natural Rubber Nanocomposites. ACS Applied Materials & Interfaces, 2017, 9, 4860-4872.	8.0	125
10	Piezoresistive natural rubber-multiwall carbon nanotube nanocomposite for sensor applications. Sensors and Actuators A: Physical, 2016, 239, 102-113.	4.1	109
11	Rupture of Wetting Films Caused by Nanobubbles. Langmuir, 2004, 20, 164-168.	3.5	106
12	Understanding the reinforcing behavior of expanded clay particles in natural rubber compounds. Soft Matter, 2013, 9, 3798.	2.7	90
13	Influence of modified natural rubber and structure of carbon black on properties of natural rubber compounds. Polymer Composites, 2012, 33, 489-500.	4.6	83
14	Evidence for an in Situ Developed Polymer Phase in Ionic Elastomers. Macromolecules, 2014, 47, 3436-3450.	4.8	79
15	The influence of acting forces on the rupture mechanism of wetting films â€” nucleation or capillary waves. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2001, 192, 61-72.	4.7	78
16	Construction of an Interconnected Nanostructured Carbon Black Network: Development of Highly Stretchable and Robust Elastomeric Conductors. Journal of Physical Chemistry C, 2015, 119, 21723-21731.	3.1	68
17	The role of linked phospholipids in the rubber-filler interaction in carbon nanotube (CNT) filled natural rubber (NR) composites. Polymer, 2014, 55, 4738-4747.	3.8	60
18	Enhanced thermal stability of polychloroprene rubber composites with ionic liquid modified MWCNTs. Polymer Degradation and Stability, 2012, 97, 776-785.	5.8	58

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19	Reinforcement and migration of nanoclay in polychloroprene/ethyleneâ€“propyleneâ€“diene-monomer rubber blends. Composites Science and Technology, 2011, 71, 276-281.	7.8	57
20	Influence of â€œexpanded clayâ€•on the microstructure and fatigue crack growth behavior of carbon black filled NR composites. Composites Science and Technology, 2013, 76, 61-68.	7.8	57
21	Reinforcement of Solution Styrene Butadiene Rubber by Silane Functionalized Halloysite Nanotubes. Journal of Macromolecular Science - Pure and Applied Chemistry, 2013, 50, 1091-1106.	2.2	56
22	Rubberâ€“Clay Nanocomposites: Some Recent Results. Advances in Polymer Science, 2010, , 85-166.	0.8	55
23	A general approach to rubberâ€“montmorillonite nanocomposites: Intercalation of stearic acid. Applied Clay Science, 2011, 51, 117-125.	5.2	55
24	Self-healing properties of carbon nanotube filled natural rubber/bromobutyl rubber blends. EXPRESS Polymer Letters, 2017, 11, 230-242.	2.1	55
25	Dispersion and distribution of carbon nanotubes in ternary rubber blends. Composites Science and Technology, 2014, 90, 180-186.	7.8	53
26	Rubber contact mechanics: adhesion, friction and leakage of seals. Soft Matter, 2017, 13, 9103-9121.	2.7	47
27	Investigation of Langmuir monofilms and flotation experiments with anionic/cationic collector mixtures. International Journal of Mineral Processing, 1998, 53, 135-144.	2.6	46
28	â€˜Expanded organoclayâ€™ assisted dispersion and simultaneous structural alterations of multiwall carbon nanotube (MWCNT) clusters in natural rubber. Composites Science and Technology, 2015, 107, 36-43.	7.8	45
29	Some new observations on line tension of microscopic droplets. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 156, 323-333.	4.7	44
30	Relaxation dynamics of carboxylated nitrile rubber filled with organomodified nanoclay. EXPRESS Polymer Letters, 2008, 2, 373-381.	2.1	42
31	Kinetics of filler wetting and dispersion in carbon nanotube/rubber composites. Carbon, 2012, 50, 4543-4556.	10.3	42
32	ELASTOMER COMPOSITES BASED ON CARBON NANOTUBES AND IONIC LIQUID. Rubber Chemistry and Technology, 2013, 86, 367-400.	1.2	40
33	Triggering the Selfâ€Healing Properties of Modified Bromobutyl Rubber by Intrinsically Electrical Heating. Macromolecular Materials and Engineering, 2017, 302, 1600385.	3.6	39
34	Effect of Vulcanization Ingredients on the Intercalationâ€Exfoliation Process of Layered Silicate in an Acrylonitrile Butadiene Rubber Matrix. Macromolecular Materials and Engineering, 2008, 293, 479-490.	3.6	38
35	Fabrication of a strain sensor from a thermoplastic vulcanizate with an embedded interconnected conducting filler network. Composites Part A: Applied Science and Manufacturing, 2020, 130, 105763.	7.6	37
36	Highly Exfoliated Natural Rubber/Clay Composites by â€œProppingâ€Open Procedureâ€: The Influence of Fattyâ€Acid Chain Length on Exfoliation. Macromolecular Materials and Engineering, 2012, 297, 369-383.	3.6	36

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37	Viscoelastic and self-healing behavior of silica filled ionically modified poly(isobutylene-<i>co</i>-isoprene) rubber. RSC Advances, 2018, 8, 26793-26803.	3.6	36
38	Effect of different ionic liquids on the dispersion and phase selective wetting of carbon nanotubes in rubber blends. Polymer, 2016, 105, 284-297.	3.8	36
39	Stability and rupture of aqueous wetting films. European Physical Journal E, 2003, 12, 431-435.	1.6	35
40	Silicaâ€Ethylene Propylene Diene Monomer Rubber Networking by<i>In Situ</i>Solâ€Gel Method. Journal of Macromolecular Science - Pure and Applied Chemistry, 2007, 45, 101-106.	2.2	34
41	Pre-intercalation of long chain fatty acid in the interlayer space of layered silicates and preparation of montmorillonite/natural rubber nanocomposites. Applied Clay Science, 2012, 67-68, 50-56.	5.2	34
42	Experimental analysis of the effect of carbon nanoparticles with different geometry on the appearance of anisotropy of mechanical properties in elastomeric composites. Polymer Testing, 2017, 59, 46-54.	4.8	32
43	Temperature Scanning Stress Relaxation of an Autonomous Self-Healing Elastomer Containing Non-Covalent Reversible Network Junctions. Polymers, 2018, 10, 94.	4.5	32
44	Rubber curing chemistry governing the orientation of layered silicate. EXPRESS Polymer Letters, 2007, 1, 717-723.	2.1	32
45	Regular Stripe Patterns in Skeletonized Langmuirâˆ'Blodgett Films of Arachidic Acid. Langmuir, 1999, 15, 8220-8224.	3.5	31
46	Selective wetting of carbon nanotubes in rubber compounds â€" Effect of the ionic liquid as dispersing and coupling agent. European Polymer Journal, 2016, 75, 13-24.	5.4	31
47	Nanoalloy Based on Clays: Intercalatedâ€Exfoliated Layered Silicate in High Performance Elastomer. Journal of Macromolecular Science - Pure and Applied Chemistry, 2008, 45, 144-150.	2.2	30
48	Fire-safe and environmentally friendly nanocomposites based on layered double hydroxides and ethylene propylene diene elastomer. RSC Advances, 2016, 6, 26425-26436.	3.6	29
49	Rupture of thin wetting films on hydrophobic surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 157, 1-9.	4.7	28
50	Filler flocculation in polymers â€" a simplified model derived from thermodynamics and game theory. Soft Matter, 2017, 13, 3701-3709.	2.7	28
51	Disjoining Pressure and Surface Tension of a Small Drop. Langmuir, 2000, 16, 3502-3505.	3.5	26
52	Jamming in Filled Polymer Systems. Macromolecular Symposia, 2010, 291-292, 193-201.	0.7	26
53	Formation and stability of carbon nanotube network in natural rubber: Effect of non-rubber components. Polymer, 2015, 73, 111-121.	3.8	25
54	Design and fabrication of thermoplastic elastomer with ionic network: A strategy for good performance and shape memory capability. Polymer, 2021, 223, 123699.	3.8	25

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55	Nano-scale morphological analysis of grapheneâ€“rubber composites using 3D transmission electron microscopy. RSC Advances, 2014, 4, 9300-9307.	3.6	24
56	High-performance elastomeric strain sensors based on nanostructured carbon fillers for potential tire applications. Materials Today Communications, 2018, 14, 240-248.	1.9	24
57	Strain-rate independent small-strain-sensor: Enhanced responsiveness of carbon black filled conductive rubber composites at slow deformation by using an ionic liquid. Composites Science and Technology, 2020, 188, 107972.	7.8	24
58	Carboxylated nitrile butadiene rubber/hybrid filler composites. Materials Research, 2012, 15, 671-678.	1.3	23
59	Effect of Nonâ€<scp>R</scp>ubber Components of <scp>NR</scp> on the Carbon Nanotube (<scp>CNT</scp>) Localization in <scp>SBR</scp>/<scp>NR</scp> Blends. Macromolecular Materials and Engineering, 2014, 299, 569-582.	3.6	23
60	Modeling of dynamic-mechanical behavior of reinforced elastomers using a multiscale approach. Polymer, 2016, 82, 356-365.	3.8	23
61	A Novel Thermotropic Elastomer based on Highlyâ€filled LDHâ€SSB Composites. Macromolecular Rapid Communications, 2012, 33, 337-342.	3.9	22
62	Non-monotonic dependence of the conductivity of carbon nanotube-filled elastomers subjected to uniaxial compression/decompression. Journal of Applied Physics, 2013, 113, .	2.5	22
63	Improvement of mechanical performance of solution styrene butadiene rubber by controlling the concentration and the size of in situ derived solâ€“gel silica particles. RSC Advances, 2016, 6, 33643-33655.	3.6	21
64	Highly enhanced electrical and mechanical properties of methyl methacrylate modified natural rubber filled with multiwalled carbon nanotubes. Polymer Testing, 2020, 85, 106417.	4.8	21
65	Equilibrium profile and rupture of wetting film on heterogeneous substrates. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 261, 135-140.	4.7	20
66	Water-Responsive and Mechanically Adaptive Natural Rubber Composites by in Situ Modification of Mineral Filler Structures. Journal of Physical Chemistry B, 2019, 123, 5168-5175.	2.6	20
67	Dynamically cured poly(vinylidene fluoride)/epoxidized natural rubber blends filled with ferroelectric ceramic barium titanate. Composites Part A: Applied Science and Manufacturing, 2017, 93, 107-116.	7.6	19
68	Compatibilization of poly(vinylidene fluoride)/natural rubber blend by poly(methyl methacrylate) modified natural rubber. European Polymer Journal, 2018, 107, 132-142.	5.4	19
69	Location of dispersing agent in rubber nanocomposites during mixing process. Polymer, 2013, 54, 7009-7021.	3.8	18
70	Selective Wetting and Localization of Silica in Binary and Ternary Blends Based on Styrene Butadiene Rubber, Butadiene Rubber, and Natural Rubber. Macromolecular Materials and Engineering, 2013, 298, 1085-1099.	3.6	17
71	Processing and Properties of Nanocomposites Based on Layered Silicate and Carboxylated Nitrile Rubber. Journal of Macromolecular Science - Pure and Applied Chemistry, 2008, 46, 7-15.	2.2	16
72	Polymere Nanokomposite mit anorganischen FunktionsfÃ¼llstoffen. Chemie-Ingenieur-Technik, 2008, 80, 1683-1699.	0.8	15

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73	Superposition approach to the dynamic-mechanical behaviour of reinforced rubbers. Polymer, 2017, 127, 129-140.	3.8	14
74	Thermoplastic vulcanizates based on poly(vinylidene fluoride)/Epoxidized natural rubber blends: Effects of phenolic resin dosage and blend ratio. Materials Chemistry and Physics, 2018, 219, 222-232.	4.0	14
75	Carbon nanotubesâ€filled thermoplastic polyurethaneâ€"urea and carboxylated acrylonitrile butadiene rubber blend nanocomposites. Journal of Applied Polymer Science, 2014, 131, .	2.6	13
76	Friction, Abrasion and Crack Growth Behavior of In-Situ and Ex-Situ Silica Filled Rubber Composites. Materials, 2020, 13, 270.	2.9	13
77	Wetting films on chemically patterned surfaces. Journal of Colloid and Interface Science, 2011, 363, 663-667.	9.4	12
78	Silica Transfer in Ternary Rubber Blends: Calculation and Experimental Determination. Macromolecular Materials and Engineering, 2012, 297, 464-473.	3.6	12
79	In Situ Polymorphic Alteration of Filler Structures for Biomimetic Mechanically Adaptive Elastomer Nanocomposites. ACS Applied Materials & Interfaces, 2018, 10, 16148-16159.	8.0	12
80	TIME AND TEMPERATURE DEPENDENT PIEZORESISTIVE BEHAVIOR OF CONDUCTIVE ELASTOMERIC COMPOSITES. Rubber Chemistry and Technology, 2018, 91, 651-667.	1.2	12
81	Blending In Situ Polyurethane-Urea with Different Kinds of Rubber: Performance and Compatibility Aspects. Materials, 2018, 11, 2175.	2.9	11
82	Determination of phase specific localization of carbon black in ternary rubber blends: A macroscopic approach by fourier transform infrared spectroscopy (FTIR). Polymer, 2018, 150, 64-71.	3.8	11
83	Conductive epoxidized natural rubber nanocomposite with mechanical and electrical performance boosted by hybrid network structures. Polymer Testing, 2022, 108, 107493.	4.8	11
84	Novel amphiphiles with preorganized functionalitiesâ€"formation of Langmuir-films and efficiency in mineral flotation. Advances in Colloid and Interface Science, 2005, 114-115, 291-302.	14.7	10
85	UNMODIFIED LDH AS REINFORCING FILLER FOR XNBR AND THE DEVELOPMENT OF FLAME-RETARDANT ELASTOMER COMPOSITES. Rubber Chemistry and Technology, 2014, 87, 606-616.	1.2	10
86	DEVELOPMENT OF HIGH PERFORMANCE RUBBER COMPOSITES FROM ALKOXIDE-BASED SILICA AND SOLUTION STYRENEâ€"BUTADIENE RUBBER. Rubber Chemistry and Technology, 2017, 90, 467-486.	1.2	10
87	Entrapped Styrene Butadiene Polymer Chains by Solâ€"Gel-Derived Silica Nanoparticles with Hierarchical Raspberry Structures. Journal of Physical Chemistry B, 2018, 122, 2010-2022.	2.6	10
88	Poly(acrylonitrile-co-butadiene) as polymeric crosslinking accelerator for sulphur network formation. Heliyon, 2020, 6, e04659.	3.2	10
89	Rupture of thin wetting films on hydrophobic surfaces. Part II: fatty acid Langmuirâ€"Blodgett layers on glass surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1999, 157, 11-20.	4.7	9
90	Metastable water films on hydrophobic silica surfaces. , 2001, , 11-16.		9

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91	Visco-elastic-plastic properties of natural rubber filled with carbon black and layered clay nanoparticles. Experiment and simulation. Polymer Testing, 2017, 63, 133-140.	4.8	9
92	Understanding the Coupling Effect between Lignin and Polybutadiene Elastomer. Journal of Composites Science, 2021, 5, 154.	3.0	9
93	Temperature-Dependent Reinforcement of Hydrophilic Rubber Using Ice Crystals. ACS Omega, 2017, 2, 363-371.	3.5	9
94	Stearate Modified Zinc-Aluminum Layered Double Hydroxides and Acrylonitrile Butadiene Rubber Nanocomposites. Polymer-Plastics Technology and Engineering, 2014, 53, 65-73.	1.9	8
95	Highly reinforced blends of nitrile butadiene rubber and in-situ synthesized polyurethaneâ€"urea. European Polymer Journal, 2015, 73, 75-87.	5.4	8
96	Filler Wetting in Miscible ESBR/SSBR Blends and Its Effect on Mechanical Properties. Macromolecular Materials and Engineering, 2016, 301, 414-422.	3.6	8
97	Conductive elastomer composites with low percolation threshold based on carbon black and epoxidized natural rubber. Polymer Composites, 2018, 39, 1835-1844.	4.6	8
98	Influence of Layered Silicate on the Selfâ€Crosslinking of Polychloroprene and Carboxylated Nitrile Rubber. Macromolecular Chemistry and Physics, 2009, 210, 189-199.	2.2	7
99	Preparation and characterization of thermoplastic polyurethaneâ€"urea and carboxylated acrylonitrile butadiene rubber blend nanocomposites. Journal of Applied Polymer Science, 2012, 123, 3635-3643.	2.6	7
100	Bubble rubbing on solid surface: Experimental study. Journal of Colloid and Interface Science, 2013, 412, 89-94.	9.4	7
101	First Experimental Proof of the Nonexistence of Long-Range Hydrophobic Attraction Forces in Thin Wetting Films. Chemical Engineering and Technology, 2001, 24, 624-628.	1.5	6
102	Purification, surface modification of coal ash silica and its potential application in rubber composites. Journal of Applied Polymer Science, 2010, 117, NA-NA.	2.6	6
103	Routes to Rubber Nanocomposites. Macromolecular Symposia, 2010, 291-292, 95-105.	0.7	6
104	A Comprehensive Study about the Role of Crosslink Density on the Tribological Behavior of DLC Coated Rubber. Materials, 2020, 13, 5460.	2.9	6
105	Effect of phase selective wetting of hybrid filler on the self-healing properties of rubber blends. Polymer, 2021, 231, 124146.	3.8	6
106	Development of Liquid Diene Rubber Based Highly Deformable Interactive Fiber-Elastomer Composites. Materials, 2022, 15, 390.	2.9	6
107	OberflÃchenenergetische Charakterisierung. Vakuum in Forschung Und Praxis, 2010, 22, 18-20.	0.1	5
108	Tribology of thin wetting films between bubble and moving solid surface. Advances in Colloid and Interface Science, 2014, 210, 39-46.	14.7	5

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109	Reactive Blending of Nitrile Butadiene Rubber and In situ Synthesized Thermoplastic Polyurethaneâ€Urea: Novel Preparation Method and Characterization. Macromolecular Materials and Engineering, 2015, 300, 242-250.	3.6	5
110	Effect of deposition inhomogeneity on the Ohm resistance of thin electroless copper layers. Journal of Materials Science, 2003, 38, 2703-2707.	3.7	4
111	Elastomerâ€“carbon nanotube composites. , 2011, , 193-229.		4
112	Observations of the stability of wetting films on polymerized LB-layers of tricosa-2,4-diynoic acid. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1998, 142, 275-279.	4.7	3
113	Experiments on convective inâ€plane orientation of monolayers. Makromolekulare Chemie Macromolecular Symposia, 1991, 46, 371-375.	0.6	2
114	Erstmals experimenteller Nachweis fÃ¼r die Nichtexistenz langweitreichender hydrophober AnziehungskrÃ¤fte in dÃ¼nnen Benetzungsfilmen. Chemie-Ingenieur-Technik, 2000, 72, 1216-1220.	0.8	2
115	Nanostructured Ionomeric Elastomers. Advances in Polymer Science, 2016, , 235-266.	0.8	2
116	Effect of Prestrain on the Actuation Characteristics of Dielectric Elastomers. Polymers, 2020, 12, 2694.	4.5	2
117	Piezoresistivity - A powerful tool to monitor the behaviour of filler networks in rubber. AIP Conference Proceedings, 2020, , .	0.4	1
118	Stability of TiO2 suspensions in reactors for degradation of toxic pollutants. , 2004, , 117-120.		0
119	Bubble rubbing on hydrophobic solid surfaces. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2018, 555, 638-645.	4.7	0