Elastic behavior of a semiflexible polymer in 3D subject to compression and stretching forces

Christina Kurzthaler

We elucidate the elastic behavior of a wormlike chain in 3D under compression and provide exact solutions for the experimentally accessible force–extension relation in terms of generalized spheroidal wave functions.

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Correction: Seedless assembly of colloidal crystals by inverted micro-fluidic pumping

Ran Niu, Thomas Palberg

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Interplay between structure and relaxation in polyurea networks: the point of view from a novel method of cooperativity analysis of dielectric response

Nerea Sebastian, Christophe Contal, Antoni Sanchez-Ferrer, Marco Pieruccini

The influence of structural constraints on the relaxation dynamics of three polyurea networks with varying degree of crosslinking, has been studied by means of a thorough analysis of broadband dielectric...

Two One-Dimensional Arrays of Naphthyl and Anthryl Groups along Peptide Nanotube Prepared from Cyclic Peptide Comprising ?- and ?-Amino Acids

Yuki Tabata, Hirotaka Uji, Tomoya Imai, Shunsaku Kimura

A novel cyclic hexa-peptide composed of L-?-naphthylalanine, D-?-anthrylalanine, and four ?-alanines (CP6) is synthesized and investigated on molecular assembling into peptide nanotube (PNT) and the electronic properties arising from one-dimensional...

Nonequilibrium phase diagrams for actomyosin networks
Simon L Freedman, Glen M Hocky, Shiladitya Banerjee, Aaron Dinner
Living cells dynamically modulate the local morphologies of their actin cytoskeletons to perform biological functions, including force transduction, intracellular transport, and cell division. A major challenge is to understand how...

Bernard Timothy, Dowan Kim, Seong Il Yoo, Jinhwan Yoon
Ionogels are crosslinked polymer networks that swell in ionic liquids (ILs) and exhibit high conductivity and chemical stability. Combined with a representative thermally responsive polymer, poly(N-isopropylacrylamide) (PNIPAm), previously studied ionogels...

Josua Grawitter, Holger Stark
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Rachel A. Baarda, Tegan L. Marianchuk, Michael D. Toney, Daniel L. Cox
We build a model 2-D nano-scaffold from beta-solenoid proteins fused with symmetric microbial multimers and characterize it using stress–strain simulations.

Rheology and microstructure of concentrated microcrystalline cellulose (MCC)/1-allyl-3-methylimidazolium chloride (AmimCl)/water mixtures

Soft Matter, 2018, Accepted Manuscript
DOI: 10.1039/C8SM00741A, Paper

Tuning of volume phase transition for poly(N-isopropylacrylamide) ionogels by copolymerization with solvatophilic monomers

Correction: Feedback control of photoresponsive fluid interfaces

In silico stress–strain measurements on self-assembled protein lattices

Rheology and microstructure of concentrated microcrystalline cellulose (MCC)/1-allyl-3-methylimidazolium chloride (AmimCl)/water mixtures

Soft Matter, 2018, Accepted Manuscript
DOI: 10.1039/C8SM01470A, Paper

Soft Matter, 2018, Accepted Manuscript
DOI: 10.1039/C8SM01448E, Paper

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Ashna Rajeev, Abhijit P. Deshpande, Madivala G. Basavaraj
Water added to a solution of microcrystalline cellulose (MCC) in 1-allyl-3-methylimidazolium chloride (AmimCl) reduces the solvent quality and causes significant changes in the flow properties and microstructure due to restructuring and aggregation of cellulose molecules.
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Buckling of a drying colloidal drop

*Soft Matter*, 2018, Advance Article
DOI: 10.1039/C8SM01324A, Paper
Mahesh S. Tirumkudulu
We derive explicit expressions for the critical capillary pressure required for buckling of drying colloidal droplets.
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Flexibility of nanolayers and stacks: implications in the nanostructuration of clays

*Soft Matter*, 2018, Accepted Manuscript
DOI: 10.1039/C8SM01359D, Paper
Tulio Honorio, Laurent Brochard, Matthieu Vandamme, Arthur Lebée
The basic structural units of adsorbing microporous materials such as clays and cementitious materials are flexible nanolayers. The flexibility of these layers is reported to play a crucial role in...
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Unconventional Locomotion of Liquid Metal Droplets Driven by Magnetic Fields

*Soft Matter*, 2018, Accepted Manuscript
DOI: 10.1039/C8SM01281D, Communication
Jian Shu, Shi-Yang Tang, Zhihua Feng, Weihua Li, Xiangpeng Li, Shiwu Zhang
The locomotion of liquid metal droplets enables enormous potential for realizing various applications in microelectromechanical systems (MEMS), biomimetics, and microfluidics. However, current techniques for actuating liquid metal droplets either associate...
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On the universality of the flow properties of soft-particle glasses

*Soft Matter*, 2018, 14,7064-7074
DOI: 10.1039/C8SM01153B, Paper
Tianfei Liu, Fardin Khabaz, Roger T. Bonnecaze, Michel Cloitre
Particle dynamic simulations are used to investigate the structural and flow properties of jammed suspensions for different soft interaction potentials and lubrication forces.
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Salt-dependent properties of a coacervate-like, self-assembled DNA liquid

*Soft Matter*, 2018, **14**, 7009-7015
DOI: 10.1039/C8SM01085D, Paper
Byoung-jin Jeon, Dan T. Nguyen, Gabrielle R. Abraham, Nathaniel Conrad, Deborah K. Fygenson, Omar A. Saleh
Liquid DNA droplets, made of self-assembled DNA particles (‘nanostars’), show salt-dependent viscosity, self-diffusion, and surface tension due mainly to basepairing thermodynamics. Yet, certain aspects indicate a heterogeneous liquid structure. These results are compared to other coacervate systems.

Computational investigation of microgels: synthesis and effect of the microstructure on the deswelling behavior

*Soft Matter*, 2018, **14**, 7083-7096
DOI: 10.1039/C8SM01407H, Paper
Angel J. Moreno, Federica Lo Verso
The microstructure of the microgel strongly affects the deswelling kinetics.

Microliter viscometry using a bright-field microscope: ?-DDM

*Soft Matter*, 2018, **14**, 7016-7025
DOI: 10.1039/C8SM00784E, Paper
Bright-field Differential Dynamic Microscopy is applied to determine the steady-shear viscosity via the intermediate scattering function.

Material gradients in fibrillar insect attachment systems: the role of joint-like elements

*Soft Matter*, 2018, **14**, 7026-7033
DOI: 10.1039/C8SM01151F, Paper
Lars Heepe, Sabrina Höft, Jan Michels, Stanislav N. Gorb
A not yet described type of material gradient in discoidal setae of male leaf beetles is shown that is suggested to facilitate their adaptability to curved and non-parallel surfaces.

Entangled chain polymer liquids under continuous shear deformation: consequences of a microscopically anharmonic confining tube
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**Soft Matter**, 2018, 14,7052-7063  
DOI: 10.1039/C8SM01182F, Paper  
Shi-Jie Xie, Kenneth S. Schweizer  
Deformation-induced changes of tube confinement field significantly modifies the shear rheological response of entangled flexible polymer liquids at Wi_R < 1.  
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**Structure and behaviour of vesicles in the presence of colloidal particles**

**Soft Matter**, 2018, 14,6949-6960  
DOI: 10.1039/C8SM01223G, Review Article  
Ross W. Jaggers, Stefan A. F. Bon  
A review of the structural changes and behaviour of synthetic vesicles when they are exposed to colloidal particles.  
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**Effect of geometry on the dewetting of granular chains by evaporation**

**Soft Matter**, 2018, 14,6994-7002  
DOI: 10.1039/C8SM01179F, Paper  
Cesare M. Cejas, Lawrence A. Hough, Christian Frétigny, Rémi Dreyfus  
Meniscus stability depends on grain arrangement, whose geometry is defined by a packing angle. Smaller angles have stable menisci.  
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