Orientational correlations in classical polyelectrolytes and salt free giantmicelles

Fact Sheet

Project Information

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Project closed

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Funded under
Specific research and technological development programme in the field of the training and mobility of researchers, 1994-1998

Total cost
No data

EU contribution
No data

Coordinated by
Université de Strasbourg I (Université Louis Pasteur)
France

Objective

Polyelectrolytes are chemical, covalently-bond polymers with ionizable groups as well as ionic sur- factants which assemble into wormlike micelles and are thus physical polymers in thermal equilibrium. They have a wide range of application, e. g. as superabsorbers or in liquid soaps. Due to the charges a number of properties like

the viscosity or the static structure factor are remarkably different from neutral polymers. It has recently been shown that electrostatic interaction lowers the shear modulus of chemical polyelectrolytes and the plateau modulus of solutions of giant micelles. Two alternative models have been developed to describe this phenomenon. The effect may be caused by orientational correlation.
In the research project we want to study the effect of electrostatic interaction on the elastic properties of polyelectrolytes to provide arguments for one model. In a second step the dynamic properties of semidilute solutions will be investigated. Experimental tools are induced birefringence measurements, rheology and neutron scattering at rest and under shear.

Fields of science (EuroSciVoc)

natural sciences > chemical sciences > **polymer sciences**

Programme(s)

FP4-TMR - Specific research and technological development programme in the field of the training and mobility of researchers, 1994-1998

Topic(s)

0302 - Post-doctoral research training grants

TP12 - Condensed Matter - Soft Matter and Polymer Physics

Call for proposal

Data not available

Funding Scheme

RGI - Research grants (individual fellowships)

Coordinator

Université de Strasbourg I (Université Louis Pasteur)

EU contribution

No data

Total cost

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Participants (1)

Not available

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Address

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