

Rational design of food processing methods with aid of neutron scattering

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Systems of practical relevance to the food industry are often hard to investigate non-invasively. This is caused by the fact that most food emulsions are opaque and soft materials. The relevant length scales are often micrometres. Spin-echo small-angle scattering (SESANS) operates at these length scales and benefits from the high penetrating power of neutrons [1,2]. SESANS yields directly the scattering length density correlation function, which facilitates visual data interpretation [3].

In the presentation the possibilities of SESANS will be illustrated with studies on the structure of protein gels [4,5], protein aggregates [2], protein mixtures [6], emulsions [1], colloids with tuneable interaction [7] and anisotropic plant protein aggregates [8].

References:

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