

PREDAVANJE

21/6/2016

15:00 h

Institut Ruđer Bošković / dvorana III. krila

The Structure of Fluids with Spherical Symmetric Competing Interactions

Prof. Dr. Roland Roth
Eberhard Karls Universität
Tübingen, Germany

The wings of some butterflies contain self-assembled gyroid structures that give rise to the fascinating effect of structural color. In this talk we address the question of what is required for a many-particle system to self-assemble such a complex structure. To this end we study, as a model system, a fluid with spherical symmetric competing interactions, which contain, beside a hard repulsive core, a short-ranged attraction and a longer ranged repulsion. Such systems can form particle clusters and complex structures such as a gyroid structure. The phase behavior and the structure of a fluid with competing interaction is studied with state of the art classical density functional theory.

Prof. dr. Roland Roth studied physics at the Universities in Austria and Germany and obtained his PhD degree in 1996, focused on the topic of entropic forces in hard-sphere mixtures. He further worked at the Universities in UK and Germany and completed several extended research missions in Chicago, USA, and Kyoto and Osaka, Japan.

His research interests are statistical physics of soft matter systems and biological matter.

ORGANIZATOR



Projekt je sufinancirala Europska unija iz
Europskog socijalnog fonda



Ulaganje u budućnost
Europska unija

