



Forschergruppe 877

Universität Leipzig
Fakultät für Physik und
Geowissenschaften
Institut für Theoretische Physik

Gemeinsames
TKM- / FOR877- Seminar

Am Mittwoch, dem 18.05.2011 um 09:00 Uhr spricht

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über

Critical Depletion

The study of very short-ranged attractive forces induced by macromolecular or self-assembled additives in colloidal suspensions ("depletion forces") has yielded valuable and often unforeseen insights in the contingency of the liquid state and in the origin of metastable gel or glassy phases.

I will discuss the effect of long-range spatial correlations in the depletion agent for the phase behavior of the colloidal fluid [1]. Depletion forces can be amplified by orders of magnitude near the critical demixing point of the depletion agent and the solvent. Depletion effects merge continuously into critical Casimir effects, displaying interesting scaling properties. Our results and a simple density-functional approach suggest a unified view of these two apparently unrelated phenomena [2].

[1] *Phys. Rev.Lett.* **99**, 098301 (2007); [2] *Phys. Rev.Lett.* **105**, 198301 (2010)

Ort: ITP, Kleiner Seminarraum

Interessenten sind herzlich eingeladen!