

Abstract Submitted  
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**Depletion Interaction: Effect of Depletant's Non-ideality** DZINA KLESHCHANOK, REMCO TUINIER, PETER R. LANG, Forschungszentrum Jülich, SOFT MATTER TEAM — Depletion interaction is one of the central issues of colloidal stability; it arises between colloidal bodies suspended in a solution of non-adsorbing polymers, micelles, spheres, rods etc. Recently depletion of ideal non-ionic monodisperse polymers, monodisperse hard spheres and rods was extensively studied using various theoretical methods [1]. These cases enable a detailed theoretical analysis and serve as a model for other more complicated systems. However, in many experimental cases the depletants deviate from the requirements of the theories, for example, one has to deal with polydisperse, charged or (partly) adsorbing depletants. Another problem can arise when it is not possible to use the Derjaguin approximation to compute the depletion potential (e.g. the size of depletant is comparable with the size of colloids). All these effects can lead to the crucial deviations from the idealizing theories. We experimentally studied depletion interaction induced by non-ideal depletants between a charged colloidal sphere and a charged solid wall using Total Internal Reflection Microscopy (TIRM). Here we discuss the influence on the depletion potential due to the polymer size polydispersity (dextran), polymer's adsorption (polyethylene oxide (PEO)) and the colloid/depletant's size ratio (fd-viruses). .1. Tuinier, R. et al., *Adv. Colloid Interface Sci* **2003**, 103, 1.

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