

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**Structure of Viral Aggregates** STEPHEN BARR, University of Illinois at Urbana-Champaign , ERIK LUIJTEN, Northwestern University — The aggregation of virus particles is a particular form of colloidal self-assembly, since viruses of a give type are monodisperse and have identical, anisotropic surface charge distributions. In small-angle X-ray scattering experiments, the Qbeta virus was found to organize in different crystal structures in the presence of divalent salt and non-adsorbing polymer. Since a simple isotropic potential cannot explain the occurrence of all observed phases, we employ computer simulations to investigate how the surface charge distribution affects the virus interactions. Using a detailed model of the virus particle, we find an asymmetric ion distribution around the virus which gives rise to the different phases observed.

Stephen Barr  
University of Illinois at Urbana-Champaign

Date submitted: 18 Nov 2009

Electronic form version 1.4