## Abstract Submitted for the MAR14 Meeting of The American Physical Society

A new TOF-SANS instrument at the Helmholtz-Zentrum Berlin KARSTEN VOGTT, University of Cincinnati, MIRIAM SIEBENBUERGER, DANIEL CLEMENS, CHRISTIAN RABE, Helmholtz-Zentrum Berlin, PETER LINDNER, Institut Laue-Langevin, MARGARITA RUSSINA, Helmholtz-Zentrum Berlin, FERENC MEZEI, ESS Target Division, MATTHIAS BALLAUFF, Helmholtz-Zentrum Berlin — The V16/VSANS is a new small angle neutron scattering (SANS) instrument at the Helmholtz-Zentrum Berlin in Germany. It employs the time-of-flight (TOF) technique, i.e. the sample is irradiated with a broad band of neutron wavelengths rather than operating under monochromatic conditions. Thus a broader and dynamic range in momentum transfer q can be accessed. Four choppers allow tailoring the wavelength band to individual requirements in terms of resolution in q and neutron flux. Long pulse lengths lead to a broad wavelength band and a concomitant broad range in q as well as high neutron flux, while short pulse lengths have the opposite effect. The TOF-mode permits free selection of time intervals from a sample file and thus allows tracing the chronological development of a sample run. Moreover the wavelength range of the experiment can be freely narrowed down for the data reduction process, providing a tool for further data optimization after the finish of the experiment. Special software and hardware is required to deal with the large volumes of data generated and to perform data correction and normalization. The talk addresses the instrumental setup as well as data processing procedures and discusses the challenges and opportunities of the method.

> Karsten Vogtt University of Cincinnati

Date submitted: 15 Nov 2013

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