

Current Status of the Small and Wide Angle Neutron Scattering Instrument (TAIKAN) at J-PARC

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TAIKAN was installed on BL15 in the Materials and Life Science Experimental Facility (MLF) of J-PARC, which was designed for efficient measurement in wide- q range of $0.005 \sim 20 [\text{\AA}^{-1}]$ using neutrons in wavelength from 0.7 to $7.6 [\text{\AA}]$. TAIKAN has four detector banks of small, middle, high and backward banks. The small and middle detector banks are installed in a vacuum chamber to reduce the neutron scattering from air. Fig.1 shows curves of scattering cross section of Glassy Carbon (GC) measured by TAIKAN and USAXS at APS. The q range covered by the four detector banks of TAIKAN is $0.008 < q < 17 [\text{\AA}^{-1}]$, which satisfies the instrument specification of TAIKAN for the wide q measurement. Furthermore, the curve of GC measured by TAIKAN is consistent with that by USAXS in the q range from $q = 0.01$ to $0.5 [\text{\AA}^{-1}]$. The user program of TAIKAN started on March 2012 and the performance and usability

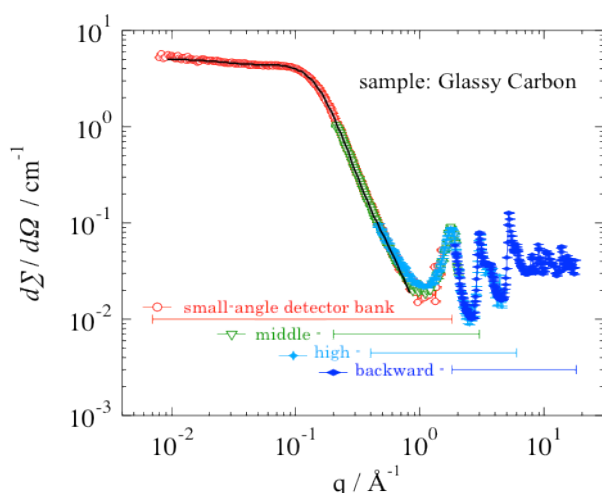


Fig.1 Scattering cross sections of the Glassy Carbon (H16) measured by TAIKAN (symbols) and a USAXS instrument (a solid line) at APS, where the USAXS profile was provided by Dr. Ilavsky.

of TAIKAN have been improved by adding detectors and improving softwares. Neutron optical devices for neutron focusing were installed by last year. In 2015, we will perform the commissioning of the device with a scintillation 2D detector to confirm the measurement in the q range down to $5 \times 10^{-4} [\text{\AA}^{-1}]$. We will show the current status of TAIKAN with the results of standard samples and also show sample environments.

[1] S. Takata *et al.*, JPS Conf. Proc., in press.