

Development of a beam profile monitor and control software for the 3-axis movable turntable.

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In Rikkyo University, we are developing a calibration environment for plasma particle instruments that uses high energy ($\sim 150\text{keV}$) ion beam line. This multifunctional environment will have two position adjustable slits which can make thin beam in arbitrary position, a 2-dimensional beam profile monitor, and a 3-axis movable turntable with an X-stage. We are also developing control software for the turntable. Development of the beam profile monitor and the control software of 3 axis movable turntable and X-stage are discussed. Information of ion beam profile is crucial for accurate evaluation of plasma instruments. The purpose of the development is to determine 2-dimensional density distribution of the ion beam. We have already finished the calibration of the profile monitor that are Micro Channel Plate Assembly and Wedge & Strip type anode using UV ray. As the next step, we try to use this profile monitor in the new ion beam line. 3 axis movable turntable and X-stage are controlled via USB from Windows-PC. We use Visual C++ to develop the software. Finally, we will integrate softwares of all controls, data acquisition, data processings, and real-time graphical monitors into one PC and make the instrument calibration simple and systematic.