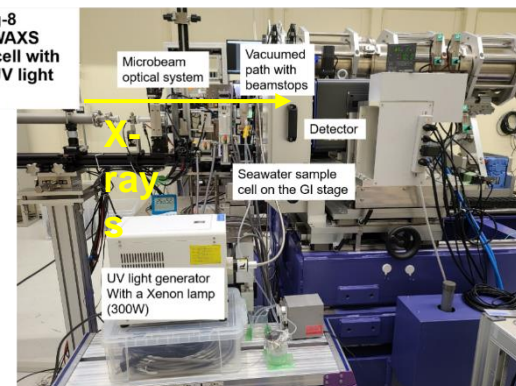


We have developed a grazing-incidence X-ray scattering (GIXS) measurement system using synchrotron microbeam X-rays in SPring-8 (RIKEN, Hyogo, Japan) which is dedicated for investigation of the surface and fine structure of polymer thin films immersed in seawater. This measurement system includes functions of media-circulation, irradiation of ultraviolet light and temperature control of the media. We are planning to conduct in-situ GIXS measurements to trace hierarchical structure change of polymer thin films with that measurement system. On the basis of the experimental results of a pretest with the GIXS measurement system, it was found that polycaprolactone (PCL) thin films were decomposed relatively fast in immersion conditions. PCL might be an appropriate sample to trace surface decomposition behavior in seawater by using the microbeam GIXS measurement system.

BL05XU/SPring-8
Microbeam GIWAXS
with a sample cell with
seawater and UV light
July, 2021



RIKEN /SPring-8

