

Status Report on Super High Resolution Powder Diffractometer at J-PARC

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Super High Resolution Powder Diffractometer, SuperHRPD, located at about 100 m from a thin side of a decoupled poisoned moderator achieved the world best resolution $\Delta d/d = 0.035\%$. In the summer of 2009, we installed a new SuperHRPD chamber, which was produced by a small and medium-sized enterprise group, JSS, in Ibaraki prefecture to improve S/N , and to achieve better resolution as well as intensity. The new chamber consists of a vacuum sample chamber with capacity of about 1m^3 , and gas-filled scattering banks around it. In the design concept of a new chamber, a detector solid angle is increased, d -range / Q -range is expanded and also choices of high-intensity mode and high-resolution mode are implemented by varying incident collimations. The on-beam commissioning of the new SuperHRPD was completed in the autumn of 2009, and general users began to use this new chamber.

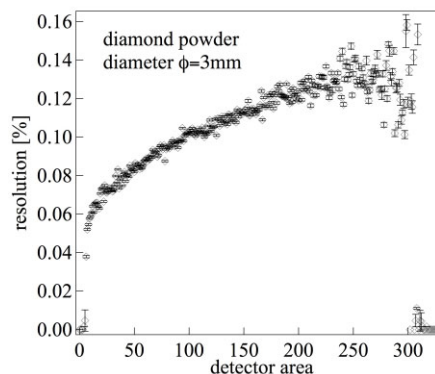


Fig.1 left : A new SuperHRPD chamber was installed in Summer of 2009. Right: A detector range dependency of the resolution. When the value of the horizontal axis is larger, a scattering angle of detector area becomes smaller.