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## In situ X-ray diffraction experiment using 6-6 type multi-anvil system and usefulness for neutron experiment

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The construction of high-pressure neutron beam line "PLANET" is progressing in the pulse neutron experiment facilities in Tokai-mura (J-PARC), and the 1500 ton cubic type high pressure apparatus will be installed in this beam line. A 6-6 pressurizing method (Nishiyama et al., 2008; Kawazoe et al., 2010) has a lot of advantages for the neutron experiment, so this system should be introduced into this project. We have conducted in situ X-ray experiments to test the performance in PF-AR (AR-NE5C (MAX80 press) and AR-NE7 (MAXIII)). We will report the detail results in this session.

Nishiyama, N., Wang, Y., Sanehira, T., Irifune, T. and Rivers, M.L., 2008. Development of the Multi-anvil Assembly 6-6 for DIA and D-DIA type high-pressure apparatuses. *High Pressure Research: An International Journal*, 28(3): 307 - 314.

Kawazoe, T., Nishiyama, N., Nishihara, Y. and Irifune, T., Pressure generation to 25 GPa using a cubic anvil apparatus with a multi-anvil 6-6 assembly, *High Press. Res.*, 2010 (in press)

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