

【Abstract of 2008 Grant – in – Aid for Scientific Research on Innovative Areas
(Research in a proposed research area)】

Title of project	Earth Science Based on the High Pressure and Temperature Neutron Experiments
Head Investigator Name	Takehiko Yagi
Abstract of Research Project	This project aims at developing researches on hydrous materials of the Earth's deep interior using newly available neutron diffraction experiments at high pressures and temperatures. The first mission of this project is to construct a neutron diffraction beam line specially designed for in-situ measurements under the condition corresponding to the Earth's upper mantle in J-PARC (Japan Proton Accelerator Research Complex). This facility will provide us unique opportunities to clarify the roles of water in hydrous minerals and magmas in the Earth's deep interior. Together with the study on simple ice and quantum simulation, which will contribute on microscopic understanding of the interactions between water and Earth's materials, this project will open up the studies to explore the new world of Earth sciences.
Term of Project: 2008–2012	