

Consortium for High-pressure Earth and Planetary Science

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We propose to create a platform for advancement of Earth and planetary sciences based on high-pressure technology combined with quantum-beam facilities, by forming a nation-wide consortium. The headquarters are to be located at the Premier Research Institute for Ultrahigh-pressure Sciences (PRIUS), run by Geodynamics Research Center of Ehime Univ., which has been functioning as the national joint research/collaboration center in high-pressure sciences since FY2013. The core institutional members of the consortium are Ehime Univ., Tohoku Univ., Univ. Tokyo, and Tokyo Inst. Tech., with some 25 major research groups in Japan. The consortium will play important roles in construction and up-grading of high-pressure beamlines at SPring-8, KEK, J-PARC, SAKULA etc., as well as in exchanges of human resources and experimental techniques among the constituting institutional members. The major scientific targets of the consortium are to understand the composition, dynamics, origin and evolution of the Earth and planetary bodies based on cutting edge technologies of high-pressure experiments, quantum-beam applications, and computational simulations. Developments of interdisciplinary sciences in Earth and planetary sciences, as well as in other research fields such as physics, chemistry, materials sciences, etc., are also important goals of the present consortium.

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