



北京高压科学研究中心

Center for High Pressure Science & Technology Advanced

November 29, 2017

Professor Carl Agee  
President of COMPRES

Dear Professor Agee:

It is my great pleasure to support the COMPRES X-Ray DAC Program at NSLS-II proposed by Professors Jihua Chen, John Parise, and Kanani Lee.

During my participation in the COMPRES Workshop on October 28, 2017, I witness the strong enthusiasm and synergy between the COMPRES community users and the NSLS-II facility staff. This reminded me the Workshop that started HPCAT at APS two decades ago. The potential scientific and technological breakthroughs of the DAC NSLS-II is comparable to that of the HPCAT, except the proposed \$2.2M/5yr budget was only 1/10 of the HPCAT \$20M/5yr construction budget. The new program will allow the COMPRES community to gain access to the most advanced synchrotron source in the United States.

With the enthusiastic support of the NSLS-II staff, the COMPRES DAC Program can take full advantage of the unmatched brilliance, emittance and coherence of six state-of-the-art beamlines: XPD, IXS, HXN, CHX, SRX, and HEX, to explore and perfect new DAC probes of multigrain crystallography, pair distribution function, x-ray spectroscopy, and x-ray imaging techniques. These will be powerful tools for advancing geophysics and geochemistry of the deep Earth interior, and will be an unparallel treasure to the domestic and international COMPRES research community.

As the Director of the HPSTAR, a global research center on fundamental high-pressure science in China, I am fully supportive of this proposal, and would like to pledge substantial 1:1 matching in personnel and equipment to share 50% of the COMPRES burden, *i.e.*, \$1.1M of the \$2.2M total budget. We will also provide technical and scientific advices to optimize the DAC community facility at NSLS-II.

Please let me know if I can be further help.

Sincerely yours,

Hokwang Mao  
Director of HPSTAR