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**Fast X-ray Imaging Applications for Granular Physics** YUJIE WANG, YIXIN CAO, CHENGJIE XIA, BINQUAN KOU, HAOHUA SUN, Department of Physics, Shanghai Jiao Tong University, 800 Dong Chuan Road, Shanghai 200240, China, XIANGHUI XIAO, KAMEL FEZZAA, X-ray Science Division, Argonne National Laboratory, 9700 South Cass Avenue, IL 60439, USA — Studying granular systems with x-ray imaging technique, including x-ray computed tomography (CT) and ultrafast x-ray projection imaging, has great superiority. Due to the penetrating properties of x-ray, internal structures of a granular system could be obtained. Using x-ray CT technology, we studied packing problems with various granular systems, such as mono-dispersed hard spheres, wet spheres, rods, poly-dispersed foams, etc. At the same time, ultrafast x-ray phase contrast imaging technique provides a projective realization of evolving systems, which is one of the few experimental methods that can probe dynamic properties of granular systems. These experimental works will contribute to revealing some important properties of granular systems.

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