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Sub-Angstrom Resolution X-Ray Imaging of Correlated Disorder in Crystals VICTORIA KOVALCHUK, Univ of Virginia, JACOB RUFF, JOOSEOP LEE, Cornell University — We implemented a new method, called 3D Δ-PDF for analyzing X-ray diffraction data, and modeled some two-dimensional systems to evaluate the strengths and weaknesses of this method in describing different systems with correlated disorder. We found that our current implementation of the code would require for very large reciprocal spaces in order to give accurate and interesting information about a system. Such sizes of a reciprocal space are not common or easy to attain using current X-ray diffraction methods, and this poses a problem when trying to apply this method to real data sets.

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