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Intra unit cell electronic structure of the d-symmetry form factor density wave in the underdoped cuprates – Part II STEPHEN EDKINS, University of St Andrews, Cornell University, KAZUHIRO FUJITA, Cornell University, CMPMS Brookhaven National Lab, University of Tokyo, MOHAMMAD HAMIDIAN, Cornell University, CHUNG KOO KIM, CMPMS Brookhaven National Lab, Cornell University, ANDREW MACKENZIE, MPI CPFS, University of St. Andrews, HIROSHI EISAKI, Institute of Advanced Industrial Science and Technology, SHINICHI UCHIDA, University of Tokyo, MICHAEL LAWLER, Binghamton University, Cornell University, EUN-AH KIM, Cornell University, SUBIR SACHDEV, Harvard University, SEAMUS DAVIS, Cornell University, CMPMS Brookhaven National Lab, University of St. Andrews, Kavli Institute at Cornell for Nanoscale Science — A central issue of cuprate superconductivity research is to understand the nature of the unknown phase called the *pseudogap* and its relationship to the *d*-wave superconductivity. To approach this we use spectroscopic imaging STM to study the electronic structure of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$. Using our recently developed technique of sub-lattice phase-resolved electronic structure visualization within each CuO_2 unit-cell, we discovered a *d*-symmetry form factor density wave within the cuprate pseudogap state. In this talk, part II, we report on the electronic structure of the density wave and its interplay with superconductivity.

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