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Local effects of impurities on the Pseudogap State of Bi-2212¹ KENJIRO GOMES, Princeton University, AAKASH PUSHP, Princeton University, ABHAY PASUPATHY, Princeton University, SHIMPEI ONO, CRIEPI, YASUSHI ABE, AIST, YOICHI ANDO, CRIEPI, HIROSHI EISAKI, AIST, ALI YAZDANI, Princeton University — Some of the most surprising properties of the cuprates are found in the pseudogap state, above the superconducting transition temperature Tc on underdoped samples. Modifications of the local density of states (LDOS) due to the presence of atomic impurities can unveil clues about the nature of the pseudogap. Using atomically resolved scanning tunneling spectroscopy we map the LDOS near Zn and Ni impurities in Bi-2212 above Tc. We find modifications of the pseudogap LDOS near both Ni and Zn sites. We will report on the spatial dependence of these variations and how they relate to the underlying pseudogap state.

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Kenjiro Gomes Princeton University

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