

Abstract Submitted
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Electronic modulations in the pseudogap state of $Bi_2Sr_2CaCu_2O_{8+d}$ and $Ca_{2-x}Na_xCuO_2Cl_2$ ¹
ABHAY PASUPATHY, AAKASH PUSHP, KENJIRO GOMES, Princeton University, SHIMPEI ONO, CRIEPI, YASUSHI ABE, AIST, YOICHI ANDO, CRIEPI, HIROSHI EISAKI, AIST, KYUNG HEE KIM, HYE KYONG LEE, SUNG-IK LEE, POSTECH, ALI YAZDANI, Princeton University — The nature of the local modulations of the density of states (DOS) found in the pseudogap regime of the cuprates is still a mystery. Using variable-temperature scanning tunneling spectroscopy we observe non-dispersive spatial DOS modulations in the pseudogap state of $Bi_2Sr_2CaCu_2O_{8+d}$ (1) and $Ca_{2-x}Na_xCuO_2Cl_2$ (2). We will compare the nature of modulations found in these materials to various models such as those arising from interference effects due to impurity scattering or from local electronic organization. We will also discuss the spatial variation of the pseudogap in $Bi_2Sr_2CaCu_2O_{8+d}$ and $Ca_{2-x}Na_xCuO_2Cl_2$.

(1) Vershinin et al., Science 303, 1995 (2004)

(2) Hanaguri et al., Nature 430, 1001 (2004).

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