

Abstract Submitted  
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**Density** **of** **States**  
**Modulations in Pseudo Gap of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$**  KYOUNG SEOK LEE,  
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Pseudo-Gap (PG) phase of the cuprates is believed to hold a key to the under-  
standing of the mechanism of high  $T_c$  superconductivity. Recently, QPI, SDW,  
and PDW modulations were observed in BSCCO and especially CDW phase in PG  
have been reported. These modulations' detailed origin, however, is still not fully  
understood let alone the relation to the superconductivity. Our STM study on  
 $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$  in PG phase revealed a density of states (DOS) modulation with  
properties different from conventional CDW or quasiparticle interference (QPI) :  
particle – hole asymmetric dispersion and non-locality. In this talk, we will present  
a quantitative analysis to estimate the correlation length of these density modula-  
tions in real space as well as momentum space and their possible origin. We will  
also discuss the relation of our observation to previously reported CDW and QPI  
features.

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