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## [113] Investigating the periodic electronic modulations in Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>1</sub>Cu<sub>2</sub>O<sub>8+δ</sub> by Scanning Tunneling Microscopy

Tuesday 5 September 2023 17:30 (15 minutes)

In this work, we will discuss our latest investigations of the Bi<sub>2</sub>Sr<sub>2</sub>Ca<sub>1</sub>Cu<sub>2</sub>O<sub>8+ $\delta$ </sub> cuprate superconductor using Scanning Tunneling Microscopy (STM). We focus on the atomic scale periodic charge modulations as a function of doping and magnetic field. Specifically, we try to address the nature and origin of the 4a<sub>0</sub>×4a<sub>0</sub> and (4/3)a<sub>0</sub>×(4/3)a<sub>0</sub> modulations (a<sub>0</sub>: crystallographic unit cell) using different acquisition modes of STM. The periodic conductance modulations we observe do not reveal the characteristic features usually associated with charge density waves in STM experiments, suggesting they are rather quasiparticle interferences.

**Theoretical Work** 

Author: Mr SINGAR, Tejas Parasram (University of Geneva, Switzerland)

**Co-authors:** Mr GU, Genda (CMPMS Division, Brookhaven National Laboratory); Mr MAGGIO-APRILE, Ivan (University of Geneva); Mr RENNER, Christoph (University of Geneva, Switzerland)

Presenter: Mr SINGAR, Tejas Parasram (University of Geneva, Switzerland)

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