

**Seminario**  
**Aula Newton venerdì 5 luglio ore 11**  
Plesso Fisico del Dipartimento SMFI

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***Charge Density Waves: cuprates vs nesting, which lesson?***

Electronic properties of quantum materials inherently depend on their time and space correlations and their possibility of emerging through mesoscopic scales. In my talk, I will focus on the relevant case of CDW investigated by soft coherent x-ray diffraction. Phase coexistence, segregation and their dynamics can be accessed from a preferential point of view, offering crucial details for understanding their relation with other electronic phases and macroscopic properties of relevance. In the specific, by comparing two completely different cases (as realized in cuprates and in a nesting based compound) some insights on the role of the CDW in cuprates can be tentatively inferred, shedding some light on their intimate nature but also causing doubts on our current understanding of electronic phases competitive with high temperature superconductivity.