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Charge fluctuations in the metallic phase of Lithium purple bronze JOSE ALVAREZ, Departamento de Fisica de la Materia Condensada, Universidad Autonoma de Madrid, JAIME MERINO, Departamento de Fisica Teorica de la Materia Condensada, Universidad Autonoma de Madrid, NATALIA LERA, Departamento de Fisica de la Materia Condensada, Universidad Autonoma de Madrid — We study the role of charge fluctuations for a model of the quasi-one-dimensional $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$ and study their influence in ARPES experiments. Coulomb repulsion induces a charge ordering (CO) transition in a multiorbital extended Hubbard model. The ordering pattern is different from the one present in a conventional CDW driven by Fermi surface nesting. We assume that purple bronze lays in the metallic side of this phase diagram, but still very close to the CO transition. In these regime, strong charge fluctuations manifest themselves through low-energy collective excitations softening in the proximity the transition, which may be directly visible in HRIX experiments. We discuss specific role of quasi-one-dimensionality in this context. We argue that the electronic scattering by these charge fluctuations can lead to the upturn in the resistivity observed at 24K and the deviations of scaling observed in ARPES .

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