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Charge order in cuprates: from hole to electron doping.

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Charge ordering has resurged as a prominent phenomenon in the physics of high-T_c cuprates. In this talk I will review our recent results from Bi2201 [1,2] and YBCO hole-doped cuprates [3,4], as well as electron doped NCCO [5]. With the early discovery of stripe-like order in La-based cuprates, this establishes charge ordering instabilities to be omnipresent in all cuprate families. I will discuss the connection between charge ordering and pseudogap phenomenology [2,5], similarities and asymmetries between hole and electron doping [2,5], and the native local symmetry of charge modulations [3,4].

1) J.A. Rosen et al., Nature Communications 4, 1977 (2013). 2) R. Comin et al., Science 343, 390 (2014). 3) R. Comin et al., Science 347, 1335 (2015). 4) R. Comin et al., Nature Materials, 14, 796-800 (2015). 5) E.H. da Silva Neto et al., Science 347, 282 (2015).