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A dichotomy between nodal and antinodal excitations and competing order in high temperature superconductors

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ARPES and STM reveal that the electronic excitations near the nodes and antinodes have very different characteristics. The nodal excitations are quasiparticle-like and the nature of antinodal excitations depends on temperature, doping, and other material details. This nodal-antinodal dichotomy is manifested most dramatically in the recent recent STM experiment that reveal a checkerboard order in the Na doped Ca₂CuO₂Cl₂. The constraint of this dichotomy on theories will be discussed.