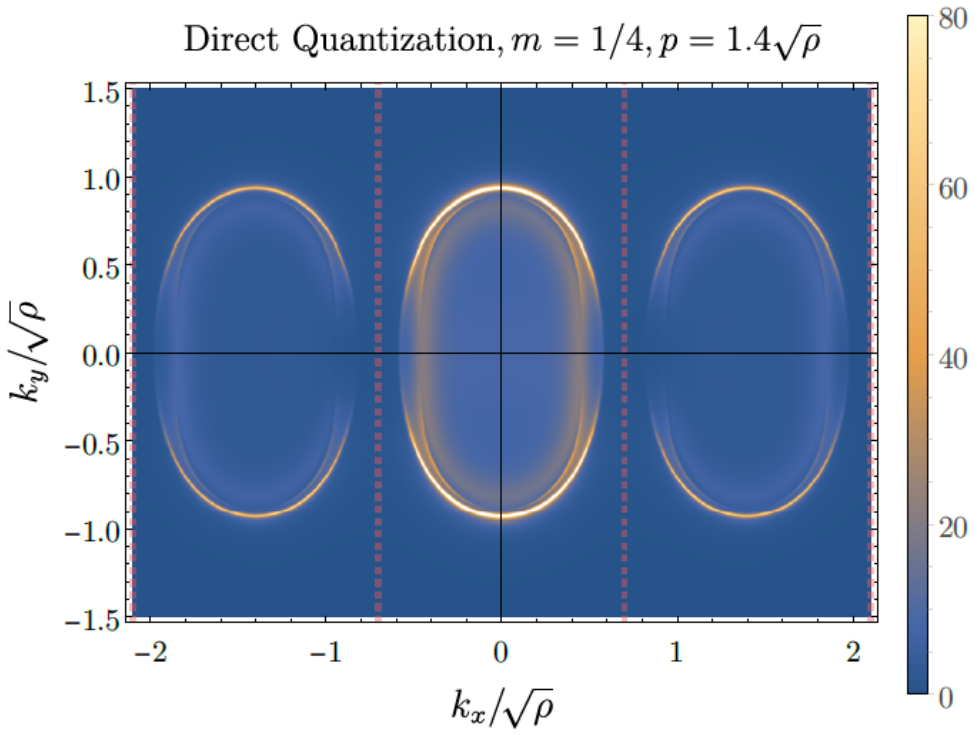
Holographic fermions and Umklapp scattering.



Dealing with quantal systems one needs dynamical responses because time-and space are "entangled" and photoemission is still the best source of information of this kind. Our group has played all along a [pioneering role studying "holographic fermions"].

A considerable challenge is to study these fermions in the presence of strong translation symmetry breaking potentials in the IR. This is of great relevance to experiment because of the "nodal-antinodal dichotomy" seen in the ARPES of the cuprates: near the zone-boundary the spectra are completely incoherent while far away (the "nodes") it becomes more quasiparticle like. In this first study we find that the same effect occurs in holography associated with the "poles eating the zero's" associated with the Umklapp "shadow bands".