

Introduction

electron-doped cuprates. Different crystal structure than hole-doped and all need annealing. (Give examples, NCCO prototypes)

Effect of annealing? introduce chemistry papers about annealing.

hole-doped: magnetism crucial relation SC. But effect of annealing on magnetism lacking. Based on PLCCO some questions remain regarding spin gap / resonance etc.

Thus, here we directly probe. Same template.

Experimental

Synthesis + annealing

Susceptibility

ANSTO

IN20

+ ref to SM

Results

fig 1: crystal structure + susceptibility

fig 2: S vs T AG/SC \rightarrow Ansto + raw in SM

fig 3: S vs T AG/SC \rightarrow Ansto + raw in SM

fig 4: "resonance" (spectral weight gain)

Discussion

- 1) Sample quality statement. Comparing our sample homogeneity. Comparing ANSTO with IN20. Comparing to literature NCCO. Goal: proof correctness of study, AG sample looks fine.
- 2) Put our study in context with PLCCO. PLCCO and NCCO are not as different as previously thought. Both close gap, it just happens to be zero in PLCCO.
- 3) Explanation / proposition: removing impurities by annealing reduces suppression of low-energy spectral weight, allowing for spin-pairing and hence SC. Connect to chemistry and
- 4) Comment on the resonance (keep it gentle) SrCuO_2 similar.

Conclusion

Summary