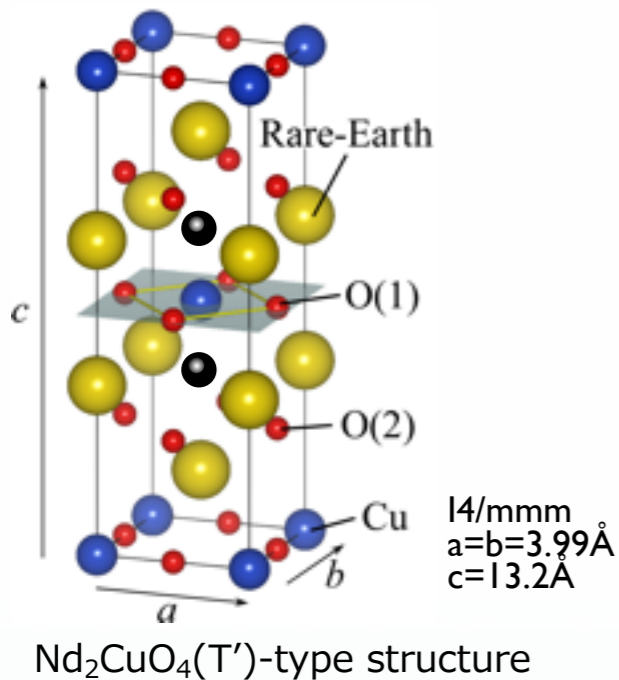


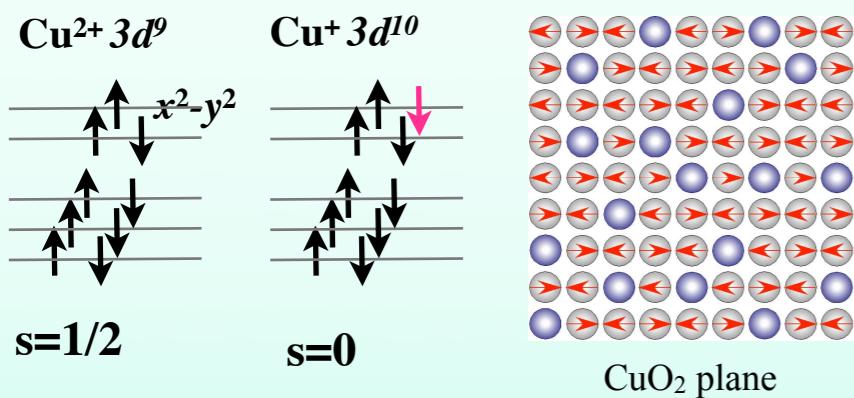
μ SR Study of Magnetism in T'-Structured $R_{2-x}Ce_xCuO_{4+\delta}$

Crystal structure



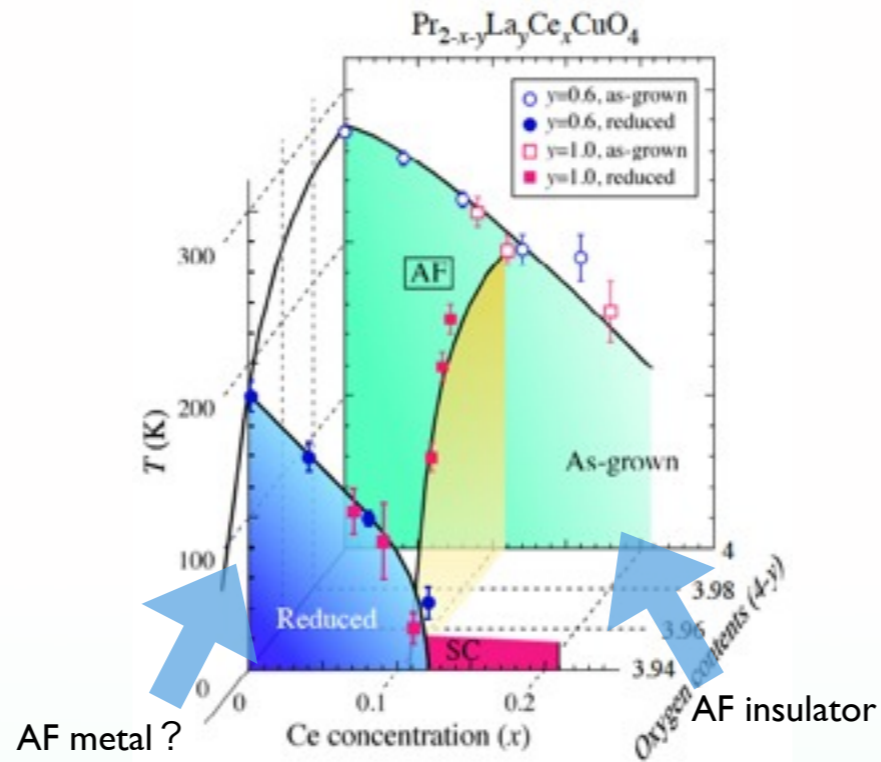
apical oxygen can be removed by annealing

Spin dilution by electron-doping



spin dilution model was proposed for the doping evolution of magnetism.

Phase diagram



Both **Ce-substitution** and **oxygen reduction** degrade magnetic order.

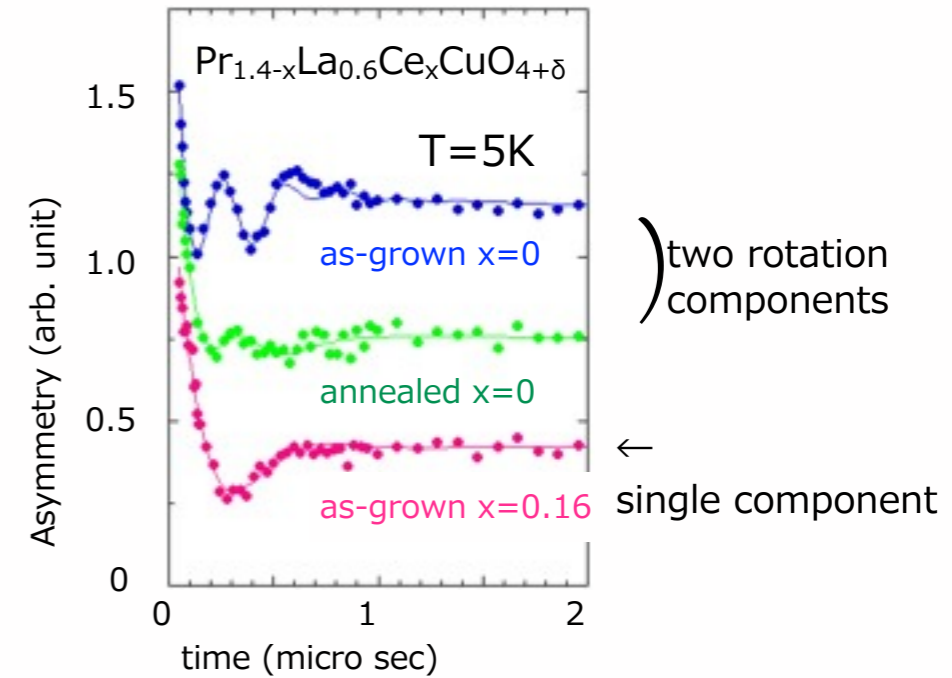


Are the effects on magnetism same?

- ☆ evidence of undoped SC
- ☆ evidence of anneal induced change in spin density distribution

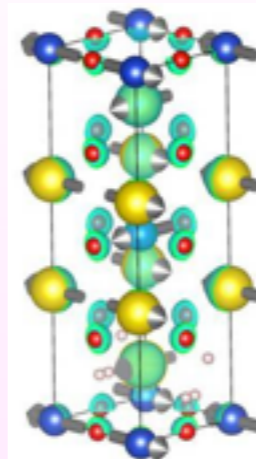
precise determination of magnetism in T'-system by μ SR measurement

μ SR experiment



Clear difference was observed in the time spectrum of AN x=0, and AS x=0.16.

\rightarrow Distinct effect of Ce-substitution and oxygen reduction on magnetism.



Non-collinear spin structure with/without Pr moment can well reproduce the internal magnetic field at muon stooping sites.

AS x=0, $m_{Cu}=0.40\mu_B$, $m_{Pr}=0.07\mu_B$
 AN x=0, $m_{Cu}\sim 0.3\mu_B$, $m_{Pr}=0.05\mu_B$
 AS x=0.16, $m_{Cu}\sim 0.15\mu_B$, $m_{Pr}\sim 0\mu_B$

Pr-Cu interaction is suppressed by Ce-substitution, suggesting the enhancement of two dimensionality by electron-doping.