

Abstract Submitted
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Correlation of superconductivity with the apical oxygen ordering.¹ C. Q. JIN, Q. Q. LIU, H. YANG, R.C. YU, X.M. QIN, L. X. YANG, Y. YU, F.Y. LI, Institute of Physics, Chinese Academy of Sciences — We discuss the evolution of superconducting transition temperature (T_c) with the ordering state at the apical oxygen layer of a high temperature superconductor (HTS). This study became available in $\text{Sr}_2\text{CuO}_{3+\delta}$ superconductor with K_2NiF_4 structure showing so far rarely formed partially occupied apical oxygen which also acts as the dopant. With observation of a series of modulation structures at apical oxygen layer, we found a well-defined links between T_c (from 75 to 95 K) and modulated structures. We address that the distribution geometry of dopant such as the partially occupied apical oxygen here can be an additional route to reach further higher T_c . .

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C. Q. Jin
Institute of Physics, Chinese Academy of Sciences

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