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The enhanced high Tc superconductivity by ordering dopant
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Institute of Physics, Chinese Academy of Science, China, S. UCHIDA, Department
of Physics, University of Tokyo, Japan — We discuss the high pressure improvement
on superconducting transition temperature (Tc) related to ordering apical oxygen
layer of a high temperature superconductor (HTS). This study became available
in the high pressure synthesized $\text{Sr}_2\text{CuO}_{3+\delta}$ superconductor with K_2NiF_4 structure
showing so far rarely formed partially occupied apical oxygen which also act as
the dopant of the HTS. The well-defined links between Tc and modulated structures
suggests that optimizing the ordering at apical oxygen layer outside CuO_2 plane is
a promising way to further enhance Tc.

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