

Abstract Submitted
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High- T_c superconductivity does not originate in cuprate-planes.¹

JOHN D. DOW, Arizona State U. — CuO_2 planes are not needed for high- T_c superconductivity, as demonstrated by Sr_2YRuO_6 and Ba_2YRuO_6 , weakly doped on Ru sites with Cu, with onset T_c 's of 49K and 93K, but no cuprate-planes. $\text{Gd}_{2-z}\text{Ce}_z\text{Sr}_2\text{Cu}_2\text{RuO}_{10}$ and $\text{GdSr}_2\text{Cu}_2\text{RuO}_8$ do not superconduct in their cuprate-planes, which are magnetic, but in their SrO layers (with onset $T_c \approx 45\text{K}$). High-temperature superconductivity resides in SrO, BaO, or interstitial oxygen regions, not in cuprate-planes. In $\text{YBa}_2\text{Cu}_3\text{O}_7$, Harshman *et al.* [1], using muon spectroscopy, found *s*-wave character, not *d*-wave character (to better than one percent) which measures the *superconducting* layers. This contradicts scanning tunneling microscopy and photoemission, which claim *d*-wave behavior after measuring *near-surface* layers (which often do not superconduct). High-temperature superconductivity originates in the BaO, SrO, or interstitial oxygen regions, not in the cuprate planes. [1] D. R. Harshman, *et al.*, Phys. Rev. **B 69**, 174505 (2004).

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