

Abstract Submitted
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High-temperature Superconductivity: Status JOHN D. DOW, Physics Department, Arizona State University, Tempe, AZ, DALE R. HARSHMAN, Physik Research Corporation, P.O. Box 1014, Lynden, WA 98264, ANTHONY R. FIORY, Physics, New Jersey Institute of Technology, Newark, NJ 07102 — A theory of high-temperature superconductivity is presented which (i) explains the cuprates, with cuprate-planes; (ii) describes the superconducting ruthenates without cuprate-planes, such as Ba_2YRuO_6 ; (iii) treats the rutheno-cuprates, such as $\text{GdSr}_2\text{Cu}_2\text{RuO}_8$, whose cuprate-planes do not superconduct; (iv) treats the molecule $\kappa\text{-[BEDT-TTF]}_2\text{Cu [NCS]}_2$ which superconducts via S, and (v) explains the pnictides. In $\text{YBa}_2\text{Cu}_3\text{O}_7$, the theory is consistent with the observation that no Cu-containing plane superconducts and the observed superconductivity is *s*-wave, not *d*-wave, once fluxon-de-pinning has been properly accounted for. The superconducting layers are BaO layers, are *p*-type, and are adjacent to the *n*-type cuprate-planes. The theory is consistent with many data which were previously beyond explanation.

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