Annotated Bibliography

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References

[1] M. Anis Rehman. Thermal and electrothermal characterization of bismuth based high-tc superconductors. *J ALLOY COMPD*, 469(1):66–72, 2009.

This recent study examined the thermal and electric properties of a BSCCO superconductor. This is the same family of superconductor that we used in our experiments. The authors examined the dc electrical resistivity, ac susceptibility, thermal transport, electrothermal conductivity, and thermoelectric properties all as a function of temperature. Their findings showed that the transition temperature for superconductivity was about 100 K.

[2] S. M. Green, Yu Mei, A. E. Manzi, H. L. Luo, R. Ramesh, and G. Thomas. Effects of compositional variations on the properties of superconducting (bi,pb)2sr2ca2cu3oÎt'. *J APPL PHYS*, 66(2):728, 1989.

This paper was among the first to examine the properties of different compositional makeups of the BSCCO superconductor family. As the relative composition shares of Bi and Sr varied, they witnessed widely different results. They found that the phase 2223 makeup was the most structurally stable compound that exhibited a critical superconductivity temperature above 100 K.

[3] H. K. Lee, K. W. Lee, K. Park, N. M. Huang, O. K. Oh, J. S. Kim, K. H. Yoo, Y. B. Kim, C. S. Kim, Y. K. Cho, J. C. Park, and S. I. Suck. Preparation and properties of pb-doped bi-sr-ca-cu-o superconductors. *J APPL PHYS*, 66(4):1881, 1989.

This article investigates the electrical and magnetic properties of superconducting BSCCO oxides. These superconductors were created using polymeric precursors. They found that the zero resistance temperature was 108 K.

[4] M. K. Wu, J. R. Ashburn, C. J. Torng, P. H. Hor, R. L. Meng, L. Gao, Z. J. Huang, Y. Q. Wang, and C. W. Chu. Superconductivity at 93 k in a new mixed-phase y-ba-cu-o compound system at ambient pressure. *PHYS. REV. LETT.*, 58:908–910, Mar 1987.

This paper was among the first to show superconductivity at temperatures above the boiling point of liquid nitrogen (77K). They used a Y-Ba-Cu-O compound system and showed superconductivity at 93 K. Another important contribution from this

paper was that it presented the first substantial evidence that superconductivity could occur above 100 K.

[5] E. Yanagisawa, D.R. Dietderich, H. Kumakura, K. Togano, H. Maeda, and K. Takahashi. Properties of pb-doped bi-sr-ca-cu-o superconductors. *Japanese J APPL PHYS*, 27(8):L1460–L1462, 1988.

This paper explains the construction and testing of Pb-doped Bi-Sr-Ca-Cu-O superconductors. different methods for creating the superconductors were used, and those different methods produced different results. The end findings were that conventional powder solid-state reaction doping led to the highest zero resistance temperature with a value of 108 K.