XANES STUDY OF Bi AND Tl SUPERCONDUCTING OXIDES

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XANES study is carried out on some Bi and Tl high T_c superconducting compounds. The Cu K absorption edge in these is examined extensively, experimentally as well as through one-electron multiple scattering calculations. The results are discussed in light of the controversy about presence and role of Cu^{3+} in these. We report against its presence and instead ascribe the fine structure arising in the spectrum to the presence of oxygen 2p holes in these highly correlated systems. Instead of being intermediate or mixed valent systems these systems are in the category of Intermediate Interatomic Valent systems wherein the oxygen 2p hole is convoluted with the localized 3d electrons at the copper sites. The itinerant pairing of such holes is probably responsible for their superconductivity.