

# Investigation of a Peaked Feature in the Magnetic Susceptibility of $\text{YBa}_2\text{Cu}_3\text{O}_{6.30}$ Samples

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Z. Naturforsch. **58a**, 546 – 550 (2003); received July 21, 2003

The static magnetic susceptibility of two different  $\text{YBa}_2\text{Cu}_3\text{O}_{6.30}$  samples has been measured at different fields in the range 2 – 300 K, using a superconducting quantum interference device magnetometer; one sample has been prepared by oxygen intercalation, the other one by deintercalation. The susceptibility shows a peak near 45 K in both samples, which depends on the field and the magnetic history. The susceptibility of semiconducting and superconducting compounds, with an oxygen content  $\text{O}_{6.20}$  and  $\text{O}_{6.41}$ , respectively, has also been investigated. The presence of the peak in the  $\text{YBa}_2\text{Cu}_3\text{O}_{6.30}$  samples has been explained by the combined effect of regions with a Curie-like behaviour and superconducting regions. The origin of these regions is discussed.

*Key words:* High  $T_c$  Superconductors; Magnetic Susceptibility; Yttrium Barium Copper Oxides; SQUID Magnetometry.