



## Magnetic Field Distributions of High-Tc Superconductors

By Yuxin Dai

LAP Lambert Academic Publishing Jul 2016, 2016. Taschenbuch. Book Condition: Neu. 220x150x7 mm. This item is printed on demand - Print on Demand Neuware - The internal magnetic field distributions for a type II superconductor (a single crystal Y Ba<sub>2</sub>Cu<sub>3</sub>O<sub>7-d</sub>) with large normal non-conducting inclusions (Y<sub>2</sub>BaCuO<sub>5</sub>) are studied. A model based on the London Equations<sub>z</sub> has been successfully developed and applied to the interpretation of the  $\mu$ SR data on this system.<sub>z</sub> The temperature dependence of the magnetic field distributions in the inclusions as compared to the model prediction for an inclusion size which matches the data allows the estimation of the magnetic field penetration depth. This presents a novel method of obtaining the temperature dependence of the penetration depth. In the model introduced here the inclusions have been assumed to be cylindrical and infinite in length. Therefore, this model should be especially appropriate for the prediction of magnetic field distributions in single crystal superconductors in which columnar defects have been purposely introduced to enhance pinning. 116 pp. Englisch.



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