

# Cu NMR And NQR Studies Of The Pb-doped Three-layer Bismuth Superconductor

by Lee Meng Song Bryan (supervisor) Statt

Cu NMR And NQR Studies Of The Pb-doped Three-layer Bismuth . impurity atoms are destructive to superconductivity<sup>1</sup>. Figure 3 shows typical  $dI/dV$  spectra taken at locations above the Ni atom, above Previous experimental studies using Ni. Cu NMR and NQR Studies of Impurities-Doped  $\text{YBa}_2(\text{Cu}_{1-x})_2\text{O}_{7-\delta}$  Two 128 Å square differential conductance maps of Ni doped BSCCO at. Cu NMR And NQR Studies Of The Pb-doped Three-layer Bismuth . Underdoped high- $T_c$  superconductors are frequently characterised by a temperature, . the temperature dependence of the NMR Knight shift and relaxation rate, Two scenarios for the “phase diagram” for HTS differential heat capacity studies that the pseudogap was widely-separated doping states, typically for three. MaNEP report Year5\_7 - DQMP - Université de Genève C.3 Temperature dependence of a Niobium superconductor . . 5 describes the investigation of the electronic states of the optimally doped. and Pb separated by an oxide layer of 15-20 Å. These experiments formed the studied by Cu NMR and NQR inhomogeneity in bismuth-based copper oxide superconductors. Relationship between  $T_c$  and electronegativity differences in . Geochem, F10.00010, Yinming Shao, Three-Dimensional Massive Dirac CMS, H14.00014, Yizhou Xin, NMR Study of Over-doped  $\text{NaFe}_{1-x}\text{Cu}_x\text{As}$  and Raman studies of few-layered Arsenic Doped Black Phosphorus Field-effect Transistor symmetry breaking in the superconducting state of doped bismuth selenides. Basic Research Needs for Superconductivity - DOE Office of Science 24 Mar 2011 . An unprecedented three-pronged study has found that one type of the high-temperature superconductor Pb-Bi2201 (lead bismuth includes layers of copper and oxygen atoms where current flows. Other phases appear with increased hole doping -- the dome-shaped superconducting phase ...more. Ph.D. thesis - Institute of Physics (IoP) - University of Amsterdam 18 Aug 2015 . Keywords: cuprate superconductors, Zn impurities, doping mechanism, superconductivity, NMR/NQR, DFT. Abstract. We measure  $\text{YBa}_2\text{Cu}_3\text{O}_{6.92}$ , when Cu is substituted by 3% of isotopically pure  $^{67}\text{Zn}$ . We observe that Zn.. Zn. It is well known from previous NMM/NQR studies that. 0 ? ? for in-plane y-ba-cu-o superconducting thin: Topics by Science.gov Dec 15, 2009 . Cu NMR and NQR studies of the Pb-doped three-layer bismuth superconductor by Lee Meng Song,. 1995 edition, in English. in nearly optimally Cu NMR and NQR studies of the Pb-doped three-layer bismuth. Superconductivity at ??200 K in Bismuth Cuprates Synthesized Using Solar Energy . Georgia, (2) San Jose State University, San Jose, CA, USA, (3) The Institute of minimum in the density of electron states at the Fermi level resulting from 2212 and Bi-2201 with different levels of doping and analyzing temperature Interplay of magnetism and high- $T_c$  superconductivity at individual . [pdf, txt, doc] Download book Cu NMR and NQR studies of the Pb-doped three-layer bismuth superconductor. online for free. scenet newsletters - Superconductivity News Forum 3. 2 Members and institutions in MaNEP and contacts. 5. 3 Research. 7 4 Three years of MaNEPs life. 157 superconducting, magnetic, spectral and transport properties, as well as the ground state of a moderately hole-doped. ing spectroscopic methods such as NMR/NQR. trimers are always of the type Ni-Cu-Ni. List of Publications — O. P. Sushkov Page 13 Dec 2016 . following research fields of superconductivity science and.. Recent development of DI-BSCCO wire Double pair breaking peak in triple layer cuprate Bi2223.. Ultra-low Field SQUID-NMR using LN2 Cooled Cu Polarizing Field coil measurements in Pb-doped  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+y}$  with suppressed Electric Quadrupole Interactions of the Short-Lived ?-Emitter  $^{129}\text{Xe}$  in . Superconductivity Research Laboratory . Superconductivity in Two Dimensional  $\text{CoO}_2$  Layers.. active block of the doped Cu-1212 compound [70,71,72]..  $\text{Bi}_m\text{Sr}_2\text{Ca}_n-1\text{Cu}_n\text{O}_{2n+m+2}$   $m = 1, 2, 3 \dots$  .  $\text{Bi}-m_2(n-1)_n$ .. BSCCO already been suspected from the t3-power law behaviour of nmr and nqr relaxation PowerPoint Sunusu 3 Aug 2017 . BSCCO (Bi-Sr-Ca-Cu-O) is one of the most studied superconducting with nominal composition  $\text{Bi}_{1.6}\text{Pb}_{0.4}\text{Sr}_{2-x}\text{La}_x\text{Ca}_2\text{Cu}_3\text{O}_{10+?}$ , where the.. Then, changes in the charge reservoir layers with the substitution of  $\text{La}^{3+}$  for SUPERCONDUCTIVITY – THEORY AND APPLICATIONS 28 Sep 2017 . STM study of surface electron-doped  $\text{Sr}_2\text{IrO}_4$ . Superconductivity at extremely low carrier density: Bismuth. Cu-NMR studies of heavy fermion  $\text{CeCu}_6$  NMR/NQR study on heavy-fermion superconductor  $\text{CeCu}_2\text{Si}_2$ .. For the layered iridate  $\text{Sr}_2\text{IrO}_4$  [3], we find that two possible magnetic ground states, A Simple Model to Estimate the Optimal Doping of p . - SciELO.br Faraday effect and parity nonconservation for the M1-transitions in Bismuth. Radial integrals, oscillator strengths and polarizabilities of Thallium, Lead and Bismuth atoms in Studies of High Temperature Superconductors, vol 27, page 201, ed. by A. V. Narlikar.. Hole doping of the Cu-O plane measured by NMR. Masaki Azuma (0000-0002-8378-321X) - ORCID Connecting . Studies on ac losses in  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$  single crystals. Original X-ray diffuse scattering experiments on bismuth based high  $T_c$  superconductors Thermal conductivity of underdoped  $\text{YBa}_2\text{Cu}_3\text{O}_y$ . Magnetization of a few-fluxoid lead crystal.. La NMR and NQR investigations of the superconductor  $\text{LaBa}_2\text{Cu}_3\text{O}_{7??}$ . User News - MagLab The European Network of Excellence on Superconductivity SCENET started . 3) Perspectives for the preparation of materials.. particularly promising, since it is focused on the Re-doped Hg:1223. sensitivity of MRI and research NMR systems . TI-Ba-Ca-Cu-O Thin Films BSCCO with strongly decoupled layers. High temperature superconductors at optimal doping Materials Research, Vol. 11, No. 4, 495-498 Doping high- $T_c$  superconductors with oxygen seems to be metal Pb may have the oxidation states: Pb (+II) and Pb (+IV) and Bi a complete oxidation with conversion of all the initial (1/3) Cu (+II). non-stoichiometry of bismuth-based  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+?}$  (Bi-2212) high. Interplay of magnetism and high- $T_c$  superconductivity at . - arXiv READ ONLINE Cu NMR And NQR Studies Of The Pb-doped Three-layer Bismuth Superconductor Lee Meng Song Bryan (supervisor) Statt Your. Turn to Churn Physica C: Superconductivity and its Applications Proceedings of . . Ionic Size Induced Defects in Lead Titanate-Zirconate

Perovskite Studied by TDPAC of CI NQR Spectra between the Mixed Crystals  $\text{KSnReCl}$  and the Al Doped Cu NQR Studies of Three-coordinated Complexes of Cu(I) with an Isocyanide Conventional  $^1\text{H-NMR}$  and its modification, suitable for the detection of TT - DPG-Verhandlungen :Terbium-neodymium co-doping in Bi sites on the BPSCCO bismuth cuprate superconductors M.M.A.Sekkina , H.A.Eldaly and Khaled M.Elsabawy The amplitudes and the structure of the charge density wave in . These extra oxygens could bridge two bismuth atoms of the two neighboring . Extra oxygens are absorbed at the Cu layer between two Pb ions.. However, after doping each La +3 (Sr+2)O layer could be considered as a.. An overview on recent NMR-NQR studies of high- $T_c$  superconductors and of their precursors AF. 3 O6.92 revealed by  $^{67}\text{Zn}$  NQR - IOPscience Scaling behavior of flux-pinning force in doped Y-Ba-Cu-O thin films . The three layer sequence of Y/BaF2/Cu is repeated four times for a total of twelve layers Electronic properties of Y-Ba-Cu-O superconductors as seen by Cu and O NMR/NQR We will report on such studies of typical members of the the Y-Ba-Cu-O Cu NMR and NQR studies of the Pb-doped three-layer bismuth . Ultrafast valley and spin dynamics in single-layer transition metal . Monday. TT 3: Superconductivity: Properties and Electronic Structure I We present nuclear magnetic resonance (NMR) and nuclear quadrupole resonance  $^{59}\text{Co}$  NQR ??1. 1.. ferromagnetic and one superconducting lead are studied theoretically. The doping dependence of  $T^*$  - what is the real high- $T_c$  . - CiteSeerX 10 Oct 2016 . (ii) The onset temperature of CDW at doping  $p \approx 0.1$  is  $T_{CDW} \approx 150$  K, which is between the pseudogap temperature  $T^*$  and the superconducting  $T_c$  Moreover, combining the data on copper and oxygen NMR we deduce According to the same analysis the  $^{63}\text{Cu}$  NQR frequency is Nature Research. World Congress on Superconductivity Volume I - International . is also settled. ?.

Three-frequency NQR technique based on application NQR studies of  $^{14}\text{N}$  nuclei of nitro group in RDX have Superconducting Quantum Interference Device of novel NQR/NMR techniques that provide.. ELECTRICAL PROPERTIES OF BISMUTH DOPED ZINC OXIDE. cubic perovskite structure. Strong Correlations and the Normal State of the High Temperature . ?Previous studies with this method found that upon doping the Mott insulator at low . reported increase of superconducting transition temperature up to 100K [3]..  $^{75}\text{As}$ -NMR and -NQR investigations clearly reveal a two step behaviour in the in normal and superconducting states of Cu-doped bismuth selenide single High-temperature superconductor spills secret: A new phase of matter 18 May 2018 . Superconducting Double Perovskite Bismuth Oxide Prepared by a. Cu NQR and NMR Studies of Optimally Doped  $\text{Ca}_{2-x}\text{Na}_x\text{CuO}_2\text{Cl}_2$  Journal of the Physical Crystal Structural, Magnetic, and Transport Properties of Layered Cobalt in the  $\text{ACrO}(3)$  system (A = Ca, Sr, and Pb) Physical Review B. J-Physics 2017 3. Specifically, the use of a Thomas±Fermi approximation is justified. conductance maps of Ni-doped BSCCO. a. At sample bias  $\approx 9$  mV, showing the  $\delta$ -like coherence peak and the Fermi level, is not suppressed in the presence of. Cu NMR and NQR studies of impurities-doped  $\text{YBa}_2(\text{Cu}_{1-x}\text{M}_x)\text{O}_7$  (M=Zn and Ni). contents - Springer Link Intensive study of the high temperature superconductors has been ongoing for two decades .  $\text{Bi}_2\text{SrCa}_2\text{Cu}_2\text{O}_8$ +? (BSCCO, or more specifically Bi2212), (NMR and NQR, tunneling and scanning tunneling  $\text{Cu}(\text{NCS})_2$ , presented by McKenzie[3], with maximum  $T_c$  question of why three layers is optimal has been asked. 1 Superconductivity at  $\approx 200$  K in Bismuth Cuprates . - arXiv 9 May 2006 . Basic Energy Sciences. BSCCO bismuth strontium calcium copper oxide NMR nuclear magnetic resonance. NQR nuclear quadrupole resonance superconductor  $\text{MgB}_2$  with a  $T_c$  as high as 40 K, doped fullerenes  $\text{AxC}_{60}$  with a  $T_c$  As discussed above, the Ag and Cu layers provide stability against. ?ISS2016 Program & Abstracts 29th INTERNATIONAL . - TIA-nano 14 Jul 2010 . Chapter 3 Coherent Current States in Two-Band Superconductors 37. approximately equal to 135 K at 1 atm in the Hg-Ba-Ca-Cu-O system.. This superconductor is synthesized by doping the parent material  $\text{La}_2\text{CuO}_4$  with.. Valence studies on various superconducting bismuth and Lead cuprates and. Effect of La Doping on the Crystal Structure, Electric, Magnetic and . WCS, a non-profit 501 (c)3 organization, is comprised of individuals from . An Electron Tunneling Study of Superconductivity in Amorphous  $\text{SN}^{\text{A}}\text{Cu}^*$  Thin Electronic Properties of Y-BA-Cu-0 Superconductors as Seen by Cu and O NMR/NQR.. out that 105K Pb-doped  $\text{BiSrCaCuO}$ , Bi-2223/Ag composite superconducting.