

# Publication List

## Andreas Bill

Papers are available <http://www.csulb.edu/~abill> and on <http://lanl.arXiv.org>  
CSULB student co-author names are underlined.

### LECTURES AND REVIEW ARTICLES

1. Electronic Inhomogeneities and Pairing from Unscreened Interactions in High- $T_c$  Superconductors.  
A. Bill, V. Hizhnyakov, G. Seibold, and E. Sigmund  
in *High- $T_c$  Superconductors and Related Transition Metal Oxides*, edited by A. Bussmann-Holder & H. Keller  
(Springer-Verlag, Frankfurt, 2007) p. 143.  
*Special Contributions in Honor of K. Alex Müller on the Occasion of his 80th Birthday.*
2. Properties of Magnetic Multilayers.  
A. Bill  
Lecture given at the 1st PSI Summer School in Condensed Matter Research on Magnetism, August 2002.
3. The Isotope Effect in Superconductors.  
A. Bill, V.Z. Kresin, and S.A. Wolf  
Review article in *Pair Correlations in Many-Fermion Systems*, Editor V.Z. Kresin, (Plenum Press, New York, 1998) p. 25; cond-mat/9801222.

### PAPERS

4. Classical Mechanics Analogies in Wide Dirty SFS Junctions.  
Thomas E. Baker, Ovidiu E. Icreverzi, Adam Richie-Halford, and Andreas Bill  
*J. of Supercond. Nov. Magn. accepted.*
5. Properties of Magnetic-Superconducting Proximity Systems.  
Andreas Bill, Julius de Rojas, Thomas E. Baker, and Adam Richie-Halford  
*J. of Supercond. Nov. Magn. accepted.*
6. Jacobi Elliptic Functions and the Bead on the Hoop.  
T.E. Baker, and A. Bill  
*Am. J. Phys. in press*, arxiv:1201.4201 (2012).
7. Development of the Grain Size Distribution During the Crystallization of an Amorphous Solid  
A. Bill and R.B. Bergmann  
*Mater. Res. Soc. Proc.* **1308**, mrsf10-1308-dd03-01 (2011).
8. Time Evolution of Grain Size Distributions in Random Nucleation and Growth Crystallization Processes.  
A.V. Teran, R.B. Bergmann, and A. Bill  
*Phys. Rev. B* **81**, 075319 (2010), cond-mat/1003.0143.  
*One figure was selected for the Front Page of Phys.Rev.B (Kaleidoscope) website, February 2010.*
9. The Grain Size Distribution in Crystallization Processes with Anisotropic Growth Rate  
K.S. Lokovic, R.B. Bergmann and A. Bill  
*Mater. Res. Soc. Symp. Proc.* **1245**, A16-7 (2010).
10. Modeling the Grain Size Distribution during Solid Phase Crystallization of Silicon.  
A.V. Teran, R.B. Bergmann and A. Bill  
*Mater. Res. Soc. Symp. Proc.* **1153**, A05-3 (2009).

11. On the Origin of Logarithmic-Normal Distributions: An Analytical Derivation, and its Application to Nucleation and Growth Processes.  
R.B. Bergmann and A. Bill  
J. Cryst. Growth **310**, 3135 (2008), cond-mat/0807.0396.
12. Universal high energy anomaly in the electron spectrum of high temperature superconductors by angle-resolved photoemission spectroscopy.  
J. Graf, G.-H. Gweon, K. McElroy, S. Y. Zhou, C. Jozwiak, E. Rotenberg, A. Bill, T. Sasagawa, H. Eisaki, S. Uchida, H. Takagi, D.-H. Lee, and A. Lanzara  
Phys. Rev. Lett. **98**, 067004 (2007), cond-mat/0607319.
13. Self-Supported Superconductivity in Layered Metallochloronitrides.  
V.Z. Kresin, A. Bill and H. Morawitz  
in *New Challenges in Superconductivity: Experimental Advances and Emerging Theories*, Edited by J. Ashkenazi *et al.* (Springer-Verlag, 2005) p. 213.
14. Influence of higher *d*-wave gap harmonics on the dynamical magnetic susceptibility of high-temperature superconductors.  
A. Schnyder, A. Bill, C. Mudry, R. Gilardi, H. Ronnow, and J. Mesot  
Phys. Rev. B **70**, 214511 (2004); cond-mat/0405607.
15. Magnetic Properties of Exchange Springs.  
A. Bill and H.B. Braun  
J. Mag. Mag. Mat. **272-276**, 1266 (2004).
16. Metallochloronitrides: Electronic Pairing Mechanism in a New Class of Superconductors.  
A. Bill, H. Morawitz, and V.Z. Kresin  
Physica C **408-410**, 238 (2004).
17. Metallochloronitrides: a New Class of Superconductors.  
A. Bill, H. Morawitz, and V.Z. Kresin  
Int. J. Mod. Phys. B **17**, 3281 (2003).
18. Electronic Collective Modes in Layered Superconductors.  
A. Bill, H. Morawitz, and V.Z. Kresin  
Phys. Rev. B, **68** 144519 (2003); cond-mat/0305293.
19. Crystal Structures and Electronic Spectrum of Haloform-intercalated C<sub>60</sub> Materials.  
R. Windiks, A. Bill, B. Delley, and V.Z. Kresin  
Phys. Rev. B, **66**, 195418 (2002), cond-mat/0207120.  
*Selected for Dec. 9th issue of the Virtual Journal of Nanoscale Science & Technology, vol. 6 (2002).*
20. Exchange Coupling in Fe/NiO/Co Film Studied by Soft X-Ray Resonant Magnetic Reflectivity.  
O. Zaharko, P. Oppener, M. Horisberger, H.Ch. Mertins, D. Abramsohn, H. Grimmer, F. Schäfers, A. Bill, H.B. Braun  
Phys. Rev. B **66**, 134406 (2002)
21. Dynamical Screening and Superconducting State of Intercalated Layered Metallochloronitrides.  
A. Bill, H. Morawitz, and V.Z. Kresin  
Phys. Rev. B **66**, 100501(R) (2002); cond-mat/0204580
22. Dynamical Screening and Electron-Mediated Superconductivity in Intercalated Layered Metallochloronitrides.  
A. Bill, H. Morawitz, and V.Z. Kresin  
J. Supercond. **15** 483 (2002).

23. Intercalation and Superconductivity in Molecular Crystals.  
A. Bill, V.Z. Kresin  
J. Supercond. **15** 489 (2002).
24. High-Temperature Superconductivity in Intercalated Molecular  $C_{60} \cdot 2CHX_3$  ( $X=Cl, Br, I$ )  
A. Bill, R. Windiks, B. Delley, and V.Z. Kresin  
Int. J. Mod. Phys. B, **16**, 1533 (2002).
25. Intercalation and High Temperature Superconductivity in Fullerides  
A. Bill, V.Z. Kresin  
Eur. Phys. J. B **26**, 3(R) (2002); cond-mat/0109553,0110327.
26. Low-Energy Collective Modes and Superconductivity in Layered Systems.  
A. Bill, H. Morawitz, and V.Z. Kresin  
J. Supercond. **13**, 907 (2000).
27. Acoustic Plasmons in Layered Systems and the Phonon-Plasmon Mechanism of Superconductivity.  
A. Bill, H. Morawitz, and V.Z. Kresin  
J. of Low Temp. Phys. **117**, 283 (1999).
28. Plasmons in Layered Superconductors.  
A. Bill, H. Morawitz, and V.Z. Kresin  
Physica B **284-288**, 433 (1999).
29. Isotope Effect for the Penetration Depth in Superconductors.  
A. Bill, V.Z. Kresin, and S.A. Wolf  
Phys. Rev. B **57**, 10814 (1998), cond-mat/9801186.
30. Effect of Magnetic Impurity Correlations on Josephson Tunneling.  
A. Bill, S.A. Wolf, Yu. Ovchinnikov, and V.Z. Kresin  
Physica C **298**, 231 (1998), cond-mat/9801189.
31. Unconventional Isotope Effects in Superconductors.  
V.Z. Kresin, A. Bill, S.W. Wolf, and Yu. Ovchinnikov  
Phys. Rev. B. **56**, 107 (1997).
32. Electronic Inhomogeneities, Electron-Lattice and Pairing Interactions in High- $T_c$  Superconductors.  
A. Bill, V. Hizhnyakov, D. Nevedrov, G. Seibold, and E. Sigmund  
Z. Phys. B **104**, 753 (1997).
33. Isotope Effect in High- $T_c$  Materials: Role of Non-Adiabaticity and Magnetic Impurities.  
A. Bill, V.Z. Kresin, and S.A. Wolf  
Z. Phys. B **104**, 759 (1997).
34. Magnetic Scattering, 'Recovery' of Superconductivity and Tunneling in Cuprates.  
V.Z. Kresin, S.W. Wolf, Yu. Ovchinnikov, A. Bill, S. Adrian, O. Dolgov, and S. Shulga  
J. of Low Temp. Phys. **106**, 159 (1997).
35. Magnetic Scattering in the Cuprates: Upper Limit of  $T_c$ , Novel Isotope Effects.  
V.Z. Kresin, A. Bill, S.W. Wolf, and Yu. Ovchinnikov  
J. Supercond. **10**, 267 (1997).
36. Anisotropy of the Superconducting Gap in the Presence of Electron-Phonon and Coulomb Interactions.  
E. Sigmund, V. Hizhnyakov, D. Nevedrov, and A. Bill  
J. Supercond. **10**, 441 (1997).

37. Isotope Effect in High- $T_c$  Superconductors due to Non-Adiabaticity, Proximity Effect and Magnetic Impurities.  
A. Bill, and V.Z. Kresin  
Z. Phys. Chem. **201**, 271 (1997).
38. Unscreened Long Range Interactions, Gap Anisotropy and Phonon Renormalization in High Temperature Superconductors.  
E. Sigmund, V. Hizhnyakov, D. Nevedrov, and A. Bill  
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39.  $\mathbf{q}$ -Dependent Phonon Renormalization: A Signature of the Gap Anisotropy in High- $T_c$  Superconductors.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
J. Supercond. **9**, 493 (1996).
40. Neutron Scattering and Gap Anisotropy in High- $T_c$  Superconductors.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
in *Proceedings of the 10th Anniversary Workshop on High- $T_c$  Superconductors* edited by B. Batlogg, C.W. Chu, W.K. Chu, D.U. Gubser, K.A. Müller (World Scientific, 1996), p. 585.
41. Anisotropic Pairing Caused by Unscreened Long Range Interactions.  
V. Hizhnyakov, A. Bill, and E. Sigmund  
in [36], p. 549.
42. Phonon Renormalization and Symmetry of the Superconducting Order Parameter.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
Phys. Rev. B **52**, 7637 (1995).
43. Non-retarded Pairing Interaction and Phonon Renormalization below  $T_c$  favored by Phase Separation.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
in *Phase Separation in Cuprate Superconductors*, vol. II, edited by E. Sigmund, K.A. Müller (Springer-Verlag, 1994), p. 290.
44. Electron-lattice Interaction, Gap Anisotropy and Phonon Renormalization.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
Proc. of the Estonian Acad. Sci., Physics, Mathematics **44**, 252 (1995).
45. Symmetry of the Gap Deduced from the Phonon Renormalization.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
in *Anharmonic Properties of High- $T_c$  Cuprates*, edited by D. Mihailovic, G. Ruani, E. Kaldis, and K.A. Müller (World Scientific, 1995) p. 261.
46. Pairing Interaction and Gap Anisotropy.  
E. Sigmund, A. Bill, and V. Hizhnyakov  
p. 187, in [41].
47. Phonon Renormalization and gap anisotropy.  
A. Bill, V. Hizhnyakov, and E. Sigmund  
Physica C **235-240**, 2137 (1994).
48. Cooper Pair Formation by Distortive Electron-Lattice Coupling.  
V. Hizhnyakov, E. Sigmund, and A. Bill  
in *Phase Separation in Cuprate Superconductors*, vol. I, edited by K. A. Müller, G. Benedek (World Scientific, Singapore, 1993).