



Universiteit
Leiden
The Netherlands

Unravelling Heterodyne Force Microscopy

Verbiest, G.J.

Citation

Verbiest, G. J. (2013, November 19). *Unravelling Heterodyne Force Microscopy. Casimir PhD Series*. Retrieved from <https://hdl.handle.net/1887/22238>

Version: Not Applicable (or Unknown)

License: [Leiden University Non-exclusive license](#)

Downloaded from: <https://hdl.handle.net/1887/22238>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/22238> holds various files of this Leiden University dissertation

Author: Verbiest, Gerard Jan

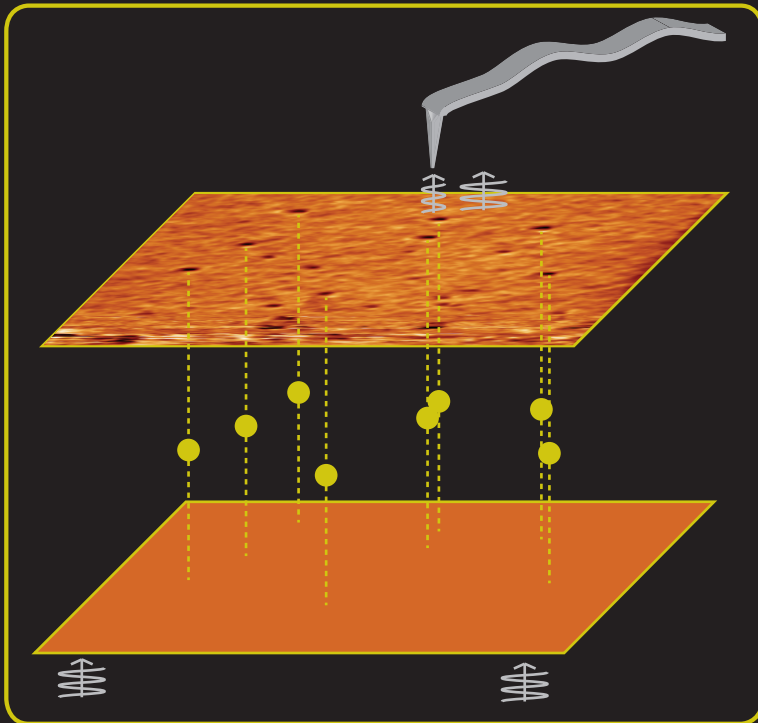
Title: Unravelling heterodyne force microscopy

Issue Date: 2013-11-19

Gerard J. Verbiest

•••••

*Unravelling Heterodyne
Force Microscopy*



LEIDEN UNIVERSITY PRESS

Bibliography

- [1] G. Binnig, H. Rohrer, Ch. Gerber, and E. Weibel, *Phys. Rev. Lett.* **49**, 57 (1982)
- [2] O.V. Kolosov and G.A.D. Briggs (1998), Patent Number WO 98/08046
- [3] M.T. Cuberes, H.E. Assender, G.A.D. Briggs, and O.V. Kolosov, *J. Appl. Phys. D* **33**, 2347 (2000)
- [4] O. Kolosov and K. Yamanaka, *Jpn J. Appl. Phys.* **32**, 1095 (1993)
- [5] K. Yamanaka and S. Nakano, *Jpn J. Appl. Phys.* **35**, 3787 (1996)
- [6] G.S. Shekhawat and V.P. Dravid, *Science* **310**, 89 (2005)
- [7] G.S. Shekhawat, A. Srivastava, S. Avasthy, and V.P. Dravid, *Appl. Phys. Lett.* **95**, 263101 (2009)
- [8] S.A. Cantrell, J.H. Cantrell, and P.T. Lillehei, *J. Appl. Phys.* **101**, 114324 (2007)
- [9] L. Tetard *et al.*, *Appl. Phys. Lett.* **93**, 133113 (2008)
- [10] L. Tetard *et al.*, *Ultramicroscopy* **110**, 701 (2010)
- [11] L. Tetard, A. Passian, R.H. Farahi, and T. Thundat, *Ultramicroscopy* **110**, 586 (2010)
- [12] L. Tetard *et al.*, *Nat. Nanotechnol.* **3**, 501 (2008)
- [13] M. Cuberes, *J. Nanomater.* **2009**, 762016 (2009)
- [14] L. Tetard, A. Passian, and T. Thundat, *Nat. Nanotechnol.* **5**, 105 (2010)
- [15] K. Kimura, K. Kobayashi, K. Matsushige, and H. Yamada, *Ultramicroscopy* **133**, 41 (2013)
- [16] <http://www.bruker.com>
- [17] A. Katan, "Measuring interactions in fluids with small-cantilever AFM" (2007), PhD thesis, Leiden University, The Netherlands
- [18] <http://www.zhinst.com>

- [19] <http://www.alt.com>
- [20] <http://www.aremco.com>
- [21] <http://www.piceramic.com>
- [22] H. Hertz, "On the Contact of Rigid Elastic Solids and on Hardness", MacMillan, Chap. 6, (1882)
- [23] B.V. Dejarguin, V.M. Muller, and Y.P. Toporov, *J. Colloid Interf. Sci.* **53**, 314 (1975)
- [24] K.L. Johnson, K. Kendall, and A.D. Roberts, *P. Roy. Soc. A-Math. Phys.* **324**, 301 (1971)
- [25] D. Maugis, *J. Colloid Interf. Sci.* **150**, 243 (1992)
- [26] K.L. Johnson and J.A. Greenwood, *J. Colloid Interf. Sci.* **192**, 326 (1997)
- [27] K.L. Johnson, *Tribol. Int.* **31**, 413 (1998)
- [28] G.J. Verbiest, J.N. Simon, T.H. Oosterkamp, and M.J. Rost, *Nanotechnology* **23**, 145704 (2012)
- [29] Z. Parlak and F.L. Degertekin, *J. Appl. Phys.* **103**, 114910 (2008)
- [30] A.F. Sarioglu, A. Atalar, and F.L. Degertekin, *Appl. Phys. Lett.* **84** 5368 (2004)
- [31] T. Hesjedal, *Rep. Prog. Phys.* **73**, 016102 (2010)
- [32] J.H. Cantrell and S.A. Cantrell, *Phys. Rev. B* **77**, 165409 (2008)
- [33] L. Tetard *et al.*, *Phys. Rev. Lett.* **106**, 180801 (2011)
- [34] E. Chilla, H-J. Fröhlich, J. Riedel, and W. Rohrbeck, *Proc. 8. Tagung Akustik/ 11. Winterschule Mikroakustik (Berlin: Phys. Ges. Berlin)*, 212 (1989)
- [35] W. Rohrbeck, E. Chilla, H-J. Fröhlich, and J. Riedel, *J. Appl. Phys. A* **52**, 344 (1991)
- [36] C. F. Ying and R. Truell, *J. Appl. Phys.* **27**, 1086 (1956)
- [37] Y. Pao and C.C. Mow, *J. Appl. Phys.* **34**, 493 (1963)
- [38] W. Kim and A. Majumdar, *J. Appl. Phys.* **99**, 4306 (2006)
- [39] <http://www.comsol.com>

-
- [40] S. Biwa, N. Ito, and N. Ohno, *Mech. Mater.* **33**, 717 (2001)
- [41] J. David and N. Cheeke, “Fundamentals and Applications of Ultrasonic Waves”, CRC Press, (2002)
- [42] G.J. Verbiest, T.H. Oosterkamp, and M.J. Rost, *Ultramicroscopy* **135**, 113 (2013)
- [43] S. Hirsekorn, *Appl. Phys. A* **66**, S249 (1998)
- [44] S. Hirsekorn, U. Rabe, and W. Arnold, *Nanotechnology* **8**, 57 (1997)
- [45] U. Rabe, J. Turner, and W. Arnold, *Appl. Phys. A* **66**, S277 (1998)
- [46] J. Turner, S. Hirsekorn, U. Rabe, and W. Arnold, *J. Appl. Phys.* **82**, 966 (1997)
- [47] U. Rabe, K. Janser, and W. Arnold, *Rev. Sci. Instrum.* **67**, 3281 (1996)
- [48] S. Eslami and N. Jalili, *Ultramicroscopy* **117**, 31 (2012)
- [49] R.W Stark and W.M. Heckl, *Surf. Sci.* **457**, 219 (2000)
- [50] J.R. Lozano and R. Garcia, *Phys. Rev. B* **79**, 014110 (2009)
- [51] A. Erturk and D.J. Inman, “Piezoelectric Energy Harvesting”, John Wiley and Sons Ltd, Appendix C, (2011)
- [52] G.J. Verbiest, T.H. Oosterkamp, and M.J. Rost, *Nanotechnology* **24**, 365701 (2013)
- [53] K. Inagaki, O.V. Kolosov, G.A.D. Briggs, and O.B. Wright, *Appl. Phys. Lett.* **76**, 1836 (2000)
- [54] E. Barthel, *J. Phys. D Appl. Phys.* **41**, 3001 (2008)
- [55] Y.P. Zhao, X. Shi, and W.J. Li, *Rev. Adv. Mater. Sci.* **5**, 348 (2003)
- [56] C. Argento and R.H. French, *J. Appl. Phys.* **80**, 6081 (1996)
- [57] B.J.R. Thio and J.C. Meredith, *J. Colloid Interf. Sci.* **314**, 52 (2007)
- [58] <http://probe.olympus-global.com/en/>
- [59] S. Maier *et al.*, *Phys. Rev. B* **72**, 245418 (2005)
- [60] T. Pfeifer *et al.*, *Phys. Rev. Lett.* **97**, 16 (2006)
- [61] S. Berciaud, L. Cognet, G.A. Blab, and B. Lounis, *Phys. Rev. Lett.* **93**, 25 (2004)

- [62] Q.A. Turchette *et al.*, *Phys. Rev. Lett.* **75**, 25 (1995)
- [63] J. Mlynek *et al.*, *Phys. Rev. Lett.* **50**, 13 (1983)
- [64] S.A. Diddems *et al.*, *Phys. Rev. Lett.* **84**, 22 (2000)
- [65] K.S. Thorne, *Rev. Mod. Phys.*, **52**, 2 (1980)
- [66] B. Cappella and G. Dietler *Surf. Sci. Rep.* **34**, 1 (1999)
- [67] J.L. Hutter and J. Bechhoefer, *Rev. Sci. Instrum.* **64**, 1868 (1993)
- [68] G.J. Verbiest and M.J. Rost, <http://arXiv/abs/1307.1292>
- [69] G.J. Verbiest and M.J. Rost, *submitted*
- [70] F. Dinelli, S.K. Biswas, G.A.D. Briggs, and O.V. Kolosov, *Appl. Phys. Lett.* **71**, 091177 (1997)
- [71] S. Santos *et al.*, *Nanotechnology* **22**, 345401 (2011)
- [72] M. Dienwiebel *et al.*, *Phys. Rev. Lett.* **92**, 126101 (2004)
- [73] <http://www.bbisolutions.com>
- [74] A. Gaiduk, M. Yorulmaz, and M. Orrit, *ChemPhysChem* **12**, 1536 (2011)
- [75] M. Mayer, Workshop on Nuclear Data for Science and Technology: Materials Analysis, Trieste, 2003
- [76] <http://www.genplot.com/doc/rump.htm>
- [77] G.V. Lasko, Ye.Ye. Deryugin, and S. Schmauder, *Comp. Mater. Sci.* **26**, 20 (2003)
- [78] M. Ramos *et al.*, *Materials* **2013**, 198 (2013)
- [79] F.J. Giessibl, *Phys. Rev. B* **56**, 16010 (1997)