

Module 4: Interferometry

References

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1. G. Cloud (with contributions from K. Creath), Phase shifting to improve interferometry, Chapter 22, in: *Optical Methods of Engineering Analysis*, Gary Cloud, (Cambridge University Press, 1995), pp. 477-491.
2. T. Cole, A. Kathman, S. Koszelak, and A. McPherson, Determination of local refractive index for protein and virus crystals in solution by Mach-Zehnder interferometry, *Analytical Biochem.*, 231 (1995) 92-98.
3. R.J. Collier, C.B. Burckhardt and L.H. Lin, *Optical Holography*, (Academic Press, New York, 1971), 605 pp.
4. K. Creath, Phase-measurement interferometric techniques, Chapter V, in: *Progress in Optics*, Vol. XXVI, E. Wolf (Ed.), (Elsevier Science Publishers B.V., Netherlands, 1988), pp. 349-393.
5. J.C. Dainty (Ed.), *Laser Speckle and Related Phenomena*, 2nd ed., (Springer-Verlag, Berlin, 1984), 342 pp.
6. O. Dupont, J.L. Dewandel and J.C. Legros, Use of electronic speckle pattern interferometry for temperature distribution measurements through liquids, *Opt. Letts.*, 20 (1995) 1824-1826.
7. A. Ecker, Solidification front dynamics examined by holographic interferometric measurement of temperature and concentration using transparent model systems, Final Report, NASA (March, 1987).
8. A. Ecker, Two-wavelength holographic measurement of temperature and concentration during alloy solidification, *J. Thermophys. Heat Transfer*, 2(3) (1988) 193-196.
9. M.M. El-Wakil and C.L. Jaeck, A two-wavelength interferometer for the study of heat and mass transfer, *J. Heat Transfer*, 79 (1964) 464-466.
10. D. Gabor, Microscopy by reconstructed wavefronts, *Proc. Soc. Roy.*, A197 (1949) 457-484.
11. L. Gatti, F. Solitro, F. Bedarida, P. Boccacci, G.A. Dall'Aglio and L. Zefiro, Three-dimensional measurements of concentration fields in crystal growth by multidirectional holographic interferometry, *SPIE* 1162 (1989) 126-131.
12. R.J. Goldstein and T.H. Kuehn, Optical Systems for Flow Measurement: Shadowgraph, Schlieren, and Intreferometric Techniques, in: *Fluid Mechanics Measurements*, R. J. Goldstein (Ed.), (Taylor & Francis, New York, 1996), pp. 451-508.
13. J.E. Greivenkamp and J.H. Bruning, Phase shifting interferometry, Chapter 14, in: *Optical Shop Testing*, 2nd Ed., Daniel Malacara (Ed.), (John Wiley & Sons, Inc., New York, 1992), pp. 501-598.

Module 4: Interferometry**References**

14. P. Hariharan, *Optical Interferometry*, (Academic Press, Sydney, 1985), 303 pp.
15. P. Hariharan, *Optical Holography: Principles, Techniques and Applications*, (Cambridge University Press, Cambridge, 1986), 319 pp.
16. P. Hariharan, *Basics of Holography*, (Cambridge University Press, Cambridge, 2002), 161 pp.
L.O. Heffinger, R.F. Wuerker and R.E. Brooks, Holographic interferometry, J. Appl. Phys., 37 (1966) 642-649.
17. R. Jones and C. Wykes, *Holographic and Speckle Interferometry*, 2nd Ed., (Cambridge University Press, 1989), p. 368.
18. O.J. Lokberg, Electronic speckle pattern interferometry, Phys. Technol., 11 (1980) 16-22.
19. S. Maruyama, T. Shibata and K. Tsukamoto, Measurement of diffusion fields of solutions using real-time phase-shift interferometer and rapid heat-transfer control system, Exp. Therm. Fluid Sci., 19 (1999) 34-48.
20. F. Mayinger, Image-forming optical techniques in heat transfer: revival by computer-aided data processing, Trans. ASME, 115 (1993) 824-834.
21. F. Mayinger (Ed.), *Optical Measurements: Techniques and Applications*, (Springer-Verlag, Berlin, 1994), 463 pp.
22. J.M. Mehta, Dual wavelength interferometric technique for simultaneous temperature and concentration measurement in liquids, Appl. Opt., 29 (13) (1990) 1924-1932.
23. W.F. Merzkirch, *Flow Visualization*, 2nd Edition, (Academic Press, New York, 1987), 260 pp.
24. S. Nakadate and I. Yamaguchi, Japanese patent describing the technique of real-time phase shifting interferometry, Japanese Patent # H02-287107 (1990).
25. S. Nakadate, Real-time fringe pattern processing and its applications, SPIE 2544 (1995) 74-86.
26. K. Onuma, K. Tsukamoto and S. Nakadate, Application of real time phase shift interferometer to the measurement of concentration field, J. Cryst. Growth, 129 (1993) 706-718.
27. R.B. Owen, Interferometry and holography in a low-gravity environment, Appl. Opt., 21 (8) (1982) 1349-1355.
28. R.B. Owen, R.L. Kroes and W.K. Witherow, Results and further experiments using Spacelab holography, Opt. Lett., 11 (7) (1986) 407-409.
29. E. Piano, G.A. Dall'Aglio, R. Chittofrati, S. Crivello, and F. Puppo, "A non-destructive interferometric technique for analysis of crystal growth and fluid dynamics", Ann. Chim. Sci. Mat. 26, 23-28 (2001).

Module 4: Interferometry**References**

30. P. Hariharan, *Optical Interferometry*, (Academic Press, Sydney, 1985), 303 pp.
31. P. Hariharan, *Optical Holography: Principles, Techniques and Applications*, (Cambridge University Press, Cambridge, 1986), 319 pp.
32. P. Hariharan, *Basics of Holography*, (Cambridge University Press, Cambridge, 2002), 161 pp.
L.O. Heffinger, R.F. Wuerker and R.E. Brooks, Holographic interferometry, J. Appl. Phys., 37 (1966) 642-649.
33. R. Jones and C. Wykes, *Holographic and Speckle Interferometry*, 2nd Ed., (Cambridge University Press, 1989), p. 368.
34. O.J. Lokberg, Electronic speckle pattern interferometry, Phys. Technol., 11 (1980) 16-22.
35. S. Maruyama, T. Shibata and K. Tsukamoto, Measurement of diffusion fields of solutions using real-time phase-shift interferometer and rapid heat-transfer control system, Exp. Therm. Fluid Sci., 19 (1999) 34-48.
36. F. Mayinger, Image-forming optical techniques in heat transfer: revival by computer-aided data processing, Trans. ASME, 115 (1993) 824-834.
37. F. Mayinger (Ed.), *Optical Measurements: Techniques and Applications*, (Springer-Verlag, Berlin, 1994), 463 pp.
38. J.M. Mehta, Dual wavelength interferometric technique for simultaneous temperature and concentration measurement in liquids, Appl. Opt., 29 (13) (1990) 1924-1932.
39. W.F. Merzkirch, *Flow Visualization*, 2nd Edition, (Academic Press, New York, 1987), 260 pp.
40. S. Nakadate and I. Yamaguchi, Japanese patent describing the technique of real-time phase shifting interferometry, Japanese Patent # H02-287107 (1990).
41. S. Nakadate, Real-time fringe pattern processing and its applications, SPIE 2544 (1995) 74-86.
42. K. Onuma, K. Tsukamoto and S. Nakadate, Application of real time phase shift interferometer to the measurement of concentration field, J. Cryst. Growth, 129 (1993) 706-718.
43. R.B. Owen, Interferometry and holography in a low-gravity environment, Appl. Opt., 21 (8) (1982) 1349-1355.
44. R.B. Owen, R.L. Kroes and W.K. Witherow, Results and further experiments using Spacelab holography, Opt. Lett., 11 (7) (1986) 407-409.
45. E. Piano, G.A. Dall'Aglio, R. Chittofrati, S. Crivello, and F. Puppo, "A non-destructive interferometric technique for analysis of crystal growth and fluid dynamics", Ann. Chim. Sci. Mat. 26, 23-28 (2001).

Module 4: Interferometry**References****TOMOGRAPHY**

1. G.T. Herman, *Image Reconstruction from Projections*, Academic, New York (1986).
2. F. Natterer, *The Mathematics of Computerized Tomography*, John Wiley, New York (1986).
3. L. Gatti, F. Solitro, F. Bedarida, P. Boccacci, G.A. Dall'aglio, and L. Zefiro, "Three-dimensional measurements of concentration fields in crystal growth by multidirectional holographic interferometry," in *Laser Interferometry: Quantitative analysis of Interferograms*, Proc. SPIE 1162, 126-131 (1989).
4. D.W. Sweeney and C.M. Vest, "Reconstruction of three-dimensional refractive index fields from multidirectional interferometric data," *Applied Optics* 12(11), 2649-2664 (1973).
5. I. Braslavsky and S.G. Lipson, "Interferometric measurement of the temperature field in the vicinity of ice crystals growing from supercooled water, *Physica A* Vol. 249, 190-195 (1998).
6. F. Mayinger, ed., *Optical Measurements: Techniques and Applications* (Springer-Verlag, Berlin, Germany, 1994).
7. P. Munshi, "Error analysis of tomographic filters. I: Theory", *NDT and E International* Vol. 25(4/5), pp. 191-194 (1992); Part II: Results, *NDT and E International* Vol. 26(5), pp. 235-240 (1993).
8. P. Munshi, R.K.S Rathore, K.S. Ram and M.S Kalra, "Error estimates for tomographic inversion", *Inverse Problems* Vol. 7, pp. 399-408 (1991).
9. E. D. Torniainen, A. Hinz and F. C. Gouldin, "Tomographic Analysis of Unsteady, Reacting Flows", *AIAA Journal* 36, 1270-1278 (1998).
10. D.W. Watt and C.M. Vest, "Turbulent flow visualization by interferometric integral imaging and computed tomography", *Experiments in Fluids* 8, 301-311 (1990).
11. Y.C. Michael and K.T. Yang, "Three-dimensional Mach-Zehnder interferometric tomography of the Rayleigh-Benard problem", *ASME J. Heat Transfer* 114, 622-629 (1992).
12. L. McMackin and R.J. Hugo, "High speed optical tomography system for imaging dynamic transparent media", *Optics Express* 1(11), 302-311 (1997).
13. H.S. Ko and K.D. Kihm, "An extended algebraic reconstruction technique (ART) for density-gradient projections: laser speckle photographic tomography", *Experiments in Fluids* 27, 542-550 (1999).

PROPER ORTHOGONAL DECOMPOSITION

1. L. Sirovich, and M. Kirby, "Low-dimensional procedure for the characterization of human faces." *Journal of the Optical Society of America A*, Vol. 4(3), pp.519-524 (1987).
2. L. Sirovich, "Turbulence and the Dynamics of Coherent Structures. Part 1: Coherent Structures," *Quarterly of Applied Mathematics*, Vol. 45, No. 3, pp. 561-571 (1987).
3. A. Chatterjee, "An introduction to the proper orthogonal decomposition", *Current Science*, Vol. 78 (7), 10 (2000).