

Dr. Basanta Bhaduri

Research Fellow



Contact Details

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Current Research

Working in an ARC sponsored project on micro-fluidic cell sorting. Also working on Brownian diffusion of carbon nano-fibers.

Research Interests

Interferometry, Polarization, Image Processing, Optical Sensors, Laser Speckles, Microscopy, MOEMS

Professional Affiliations

International Society for Optical Engineering (SPIE) (www.spie.org)
Optical Society of India (www.osiindia.org)

Selected Publications

- **B. Bhaduri**, A. Neild and T. W. NG, Directional Brownian diffusion dynamics with variable magnitudes. *Applied Physics Letters* 92, (2008) 084105-1-3.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, A comparative study of phase shifting algorithms in Digital Speckle Pattern Interferometry. *Optik* 119, (2008) 147-152.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, Digital speckle pattern interferometry (DSPI) using spatial phase shifting: Influence of intensity and phase gradients. *Journal of Modern Optics* 55, (2008) 869-884.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, Simultaneous measurement of out-of-plane displacement and slope using multi-aperture DSPI system and fast Fourier transform. *Applied Optics* 46, (2007) 5680-5686.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, (1, N) spatial phase shifting technique in DSPI and DS for NDE. *Optical Engineering* 46, (2007) 051009-1-7.
- **B. Bhaduri**, M. P. Kothiyal and N. K. Mohan, Digital speckle pattern interferometry (DSPI) with increased sensitivity: Use of spatial phase shifting. *Optics Communication* 272, (2007) 9-14.
- **B. Bhaduri**, M. P. Kothiyal and N. K. Mohan, Curvature measurement using three-aperture digital shearography and fast Fourier transform method. *Optics and Lasers in Engineering* 45, (2007) 1001-1004.
- S. Chatterjee, Y. P. Kumar and **B. Bhaduri**, Measurement of surface figure of plane optical surfaces with polarization phase-shifting Fizeau interferometry. *Optics & Laser Technology* 39, (2007) 268-274.
- B. Dhanasekar, N. K. Mohan, **B. Bhaduri** and B. Ramamoorthy, Assessment of surface roughness based on monochromatic speckle correlation technique. *Precision Engineering* (2007) (*In-press, available online*).
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, A dual-function ESPI system for the measurement of out-of-plane displacement and slope. *Optics and Lasers in Engineering* 44, (2006) 637-644.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, A TV holo-shearography system for NDE. *Lasers in Engineering* 16, (2006) 93-104.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, (5, N) phase shift algorithm for speckle and speckle shear fringe analysis in NDT. *Holography and Speckle* 3, (2006) 18-21.
- **B. Bhaduri**, N. K. Mohan and M. P. Kothiyal, Cycle path digital speckle shear pattern interferometer: Use of polarizing phase shifting method. *Optical Engineering* 45, (2006) 105604-1-6.
- **B. Bhaduri**, N. K. Mohan, M. P. Kothiyal and R.S. Sirohi, Use of spatial phase shifting technique in digital speckle pattern interferometry (DSPI) and digital shearography (DS). *Optics Express* 14, (2006) 11598-11607