

Applications of Short Coherence Sources in Fizeau Interferometry

Dr. Michael North Morris, Sr. Director of Product Development, 4D Technology



Most Fizeau interferometers use laser sources with many meters of coherence to ensure high contrast fringes are produced regardless of the position of the test article. The independence of the fringe contrast from test part position is admittedly very convenient. However, using a short coherence source with internal path matching opens up applications that are not possible with the longer coherence source. These applications include isolating the surfaces when measuring plane parallel optics, facilitating test and reference beam separation for vibration immune interferometry, and streamlining radius of curvature measurements by moving the position detection internal to the interferometer. This presentation

will cover the theory behind each of the applications and present practical results from commercial implementations. Of particular interest will be the surface isolation as applied to a large 24-inch aperture interferometer and radius of curvature measurements in a production environment.

About our speaker: Dr. North Morris received his Ph.D. in Optical Sciences from the University of Arizona in 2000 under Dr. James Wyant. Michael began his career at Agilent Technologies where he designed and developed fiber optic metrology equipment. He later joined 4D Technology in 2003 where he is now Director of Product Development. His programs have earned two R&D 100 awards, a NASA Excellence in Achievement award and multiple patents. Michael's programs and research include dynamic phase-shifting techniques, electronic speckle pattern interferometry, multiple wavelength interferometry, high speed interferometry and short coherence techniques. Michael has more than a dozen publications and book chapters and is currently a conference chair for the Interferometry XIX conference.



Reception: 6:00 pm; Dinner: 6:45 pm
Annual Business Meeting and Talk: 7:30 pm
Dinner – Cost: \$35 (\$40 after June 10)
OSSC Student Members: \$10, (\$20 after June 10)

Precision Optical
 320 Kalmus Drive
 Costa Mesa, CA 92626
 (949) 631 – 6800

On-line Registration: www.osscc.org or
 Contact: Don Silbermann, **OSSC** Arrangements Chair,
Events@osscc.org, (949) 636-6170

RSVP by June 10, 2018

Please post this notice and invite your friends & colleagues to attend!