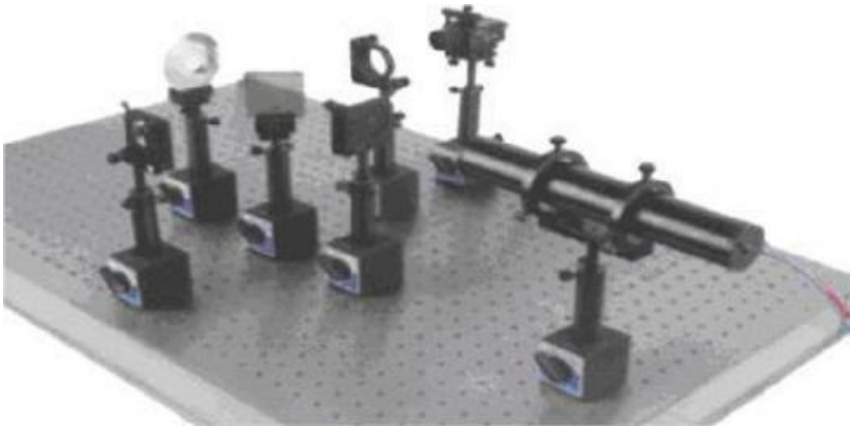
LEOI-26
Electronic Speckle Pattern Interferometry Experimental System

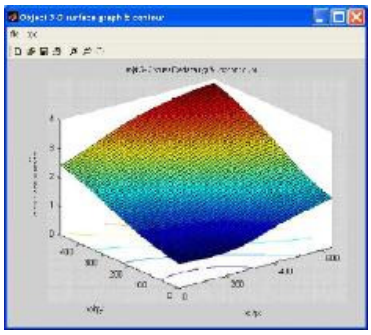
- *Simple structure*
- *High accuracy*
- *High sensitivity*
- *Real-time display*
- *Fast processing*



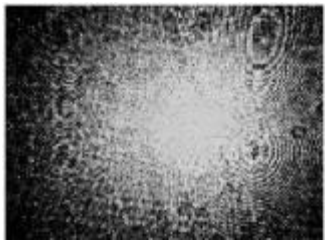
Electric speckle interference experimental system (**ESPI**) makes use of speckle, which is the carrier of rough surface information, to study a substance. It is a modern optical measuring technique that covers the fields of image processing techniques, laser technology and holographic interference techniques. Due to the splendid coherence of laser, the speckle is so obvious that can be easily and clearly shot by a CCD camera and the data as well as an image attained can be processed by a computer.

Specifications

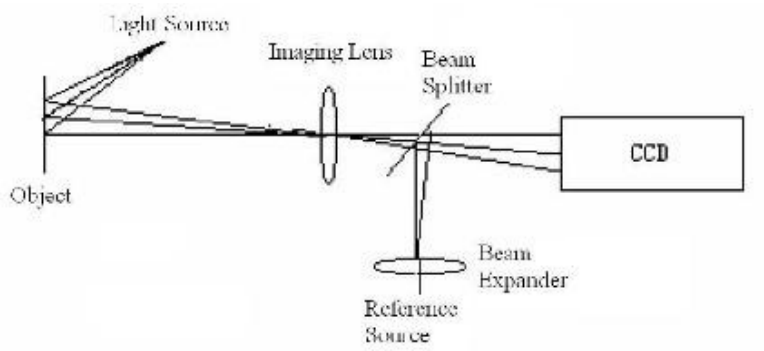
He Ne Laser	1.5 mW, 632.8nm
Voltage Variable Supply	0V to 110V
B/W CCD Camera	752 (H) x 582 (V) pixels
Image Card	640 x 480 x 16 bit
Measurement Error	1/2 λ @ 632.8nm

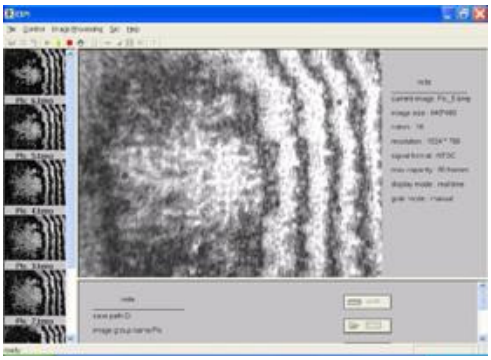


Electronic speckle pattern interferometry (ESPI) is a method for studying object surface deformation. It involves techniques of computing image processing and holographic interferometry. See a picture of speckle to the right.



Schematic





Parts Included

Description	Qty
He-Ne Laser with power supply	1
Magnetic Base with post holder	7
2-D Adjustable Stage	2
Small 2-D Stage	1
2-D Tiltable Holder	5
Plate Holder	2
Laser Tube Holder	1
White Screen	1
Flat Mirror	3
Beam Expander (f =4.5mm)	1
Beam Splitter (6:4, 60x50x6.3 mm)	1
Lens (f = 70mm)	1
Tested Object 1 with power supply	1
Tested Object 2	1
B/W CCD with power supply	1
Image Card	1
Application Program and Manual	1

Lambda Scientific Pty Ltd
6A Hender Avenue, PO Box 284, Magill, SA 5072, AUSTRALIA
Phone: +61 8 8333 0382 Fax: +61 8 8333 0380
E-mail: sales@lambdasci.com