

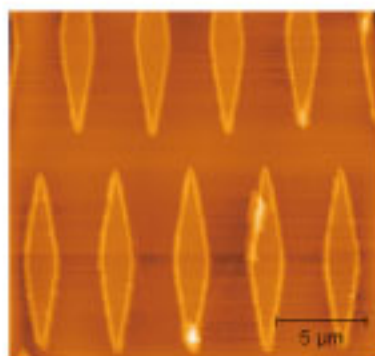
## Integrated Near-field Scanning Optical Microscope (NSOM/SNOM)

### 近場光學掃描顯微系統 NSOM-99

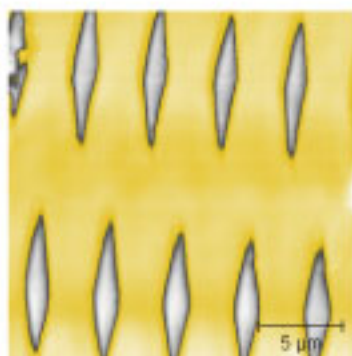
#### ■ 產品特色 FEATURES

- 整合倒立式光學顯微鏡
- 系統彈性，可提供不同光學架設方式
- 可搭配任何市售之PMT、光譜儀、雷射光源
- LabVIEW軟體控制，容易整合實驗室其他設備
- 積層式壓電平台，可進行大範圍精準位移

#### ■ 掃圖影像 IMAGES



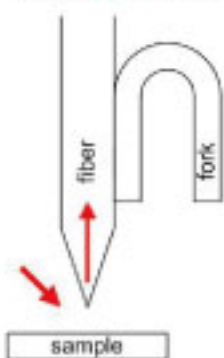
-AFM image of rhomb periodic grating



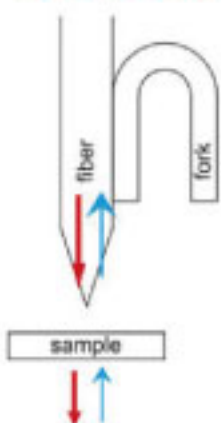
-NSOM image of rhomb periodic

#### ■ 使用模式 MODES

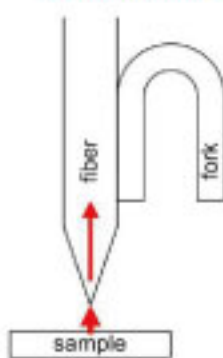
##### Reflection mode



##### Transmission mode



##### Self-emission



💡 獨創SNOM模組化讀取頭  
易更換、易操作。



💡 特殊換針設計，方便更換  
可防止探針損壞！



## Integrated Near-field Scanning Optical Microscope (NSOM/SNOM)

### 近場光學掃描顯微系統 NSOM-99

#### ■SPM function

Simultaneous NSOM imaging with tuning-fork  
Shear-mode

- Transmission NSOM mode
- Reflection mode (optional)

#### ■Sensor head assembly

- Fiber probe holder

#### ■NSOM Stage

- Integrated with inverted microscope

#### ■NSOM Probe

- Probe aperture size: ~100nm
- Operating wavelength: depends on applications

#### ■Sample stage module

- Maximum sample size: diameter 50mm × thickness 10mm
- maximum sample weight: 300g

#### ■NSOM scanner module (X/Y/Z)

	SN100P	SN20T
Integrated sensor	Capacitive	Strain gage
Travel distance	100µm × 100µm × 100µm	100µm × 100µm × 15µm
Open-loop resolution	0.2 nm	1.5 / 1.5 / 0.2 nm (RMS)
Closed-loop resolution	0.8 nm	20 / 20 / 20 nm (RMS)
Unloaded resonant freq. @ 300 g in X/Y/Z	140/140/300	

- Can be modified by customer's requests.

#### ■Electronic control system with interface board

- 8 channel simultaneous image acquisition
- 512x 512 pixel image resolution
- External AD channel(AUX Data acquisition): 1 channel
- 16 bit AD resolution
- 100 kHz sampling rate
- Inbuilt lock-in amplifier
- Power rating: 110V / 60Hz / 100W

#### ■Installation&training

- 4 hours Training for 2 persons
- Training manual
- Software CD

#### ■NSOM software and measurement function

- Operation system: Win XP/2000/Vista/Win7
- Development platform: LabVIEW
- Communication interface: Ethernet
- Raw data export : Yes( formatted txt file)
- Scan Image export: Yes (formatted bmp file)
- Scanning mode: Dot/ line/frame
- Scan angle:0~360 degree
- Multiple simultaneous image acquisition
- Automatic tip approach and retraction
- Automated or manual Z-scaling during acquisition
- Real-time flatten: line/frame
- Lift height scan: Yes

#### ■Image analysis functions

- Line profile measurement
- Contrast and brightness adjustment
- Multiple color palettes
- 3D image display
- Height measurement
- Roughness measurement

#### ■Standard detectors

- Hamamatsu PMT for Photomultiplier NSOM detector  
(Can be modified by customer's requests.)

#### ■Computer

#### ■Test Grating for NSOM: 1 set

#### ■Acceptance Standards

- NSOM measurement mode: transmission mode verifies with standard NSOM sample of test grating