

**CPC****COOPERATIVE PATENT CLASSIFICATION****G01Q****SCANNING-PROBE TECHNIQUES OR APPARATUS; APPLICATIONS OF SCANNING-PROBE TECHNIQUES, e.g. SCANNING PROBE MICROSCOPY [SPM]****NOTE**

In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, classification is made in the first appropriate place.

**G01Q 10/00****Scanning or positioning arrangements, i.e. arrangements for actively controlling the movement or position of the probe**

## G01Q 10/02

- . Coarse scanning or positioning

## G01Q 10/04

- . Fine scanning or positioning

## G01Q 10/045

- .. { Self-actuating probes, i.e. wherein the actuating means for driving are part of the probe itself, e.g. piezoelectric means on a cantilever probe}

## G01Q 10/06

- .. Circuits or algorithms therefor

## G01Q 10/065

- ... { Feedback mechanisms, i.e. wherein the signal for driving the probe is modified by a signal coming from the probe itself}

**G01Q 20/00****Monitoring the movement or position of the probe**

## G01Q 20/02

- . by optical means

## G01Q 20/04

- . Self-detecting probes, i.e. wherein the probe itself generates a signal representative of its position, e.g. piezo-electric gauge

**G01Q 30/00****Auxiliary means serving to assist or improve the scanning probe techniques or apparatus, e.g. display or data processing devices**

## G01Q 30/02

- . Non-SPM analysing devices, e.g. SEM [Scanning Electron Microscope], spectrometer or optical microscope

## G01Q 30/025

- .. { Optical microscopes coupled with SPM}

## G01Q 30/04

- . Display or data processing devices

## G01Q 30/06

- .. for error compensation

## G01Q 30/08

- . Means for establishing or regulating a desired environmental condition within a sample chamber

## G01Q 30/10

- .. Thermal environment

## G01Q 30/12

- .. Fluid environment

## G01Q 30/14

- ... Liquid environment

|                   |  |
|-------------------|--|
| G01Q 30/16        | .. Vacuum environment  |
| G01Q 30/18        | . Means for protecting or isolating the interior of a sample chamber from external environmental conditions or influences, e.g. vibrations or electromagnetic fields |
| G01Q 30/20        | . Sample handling device or method   |
| <b>G01Q 40/00</b> | <b>Calibration, e.g. of probes</b>   |
| G01Q 40/02        | . Calibration standards and methods of fabrication thereof   |
| <b>G01Q 60/00</b> | <b>Particular type of SPM [Scanning Probe Microscopy] or microscopes; Essential components thereof</b>   |
| G01Q 60/02        | . Multiple-type SPM, i.e. involving more than one SPM technique  |
| G01Q 60/04        | .. STM [Scanning Tunnelling Microscopy] combined with AFM [Atomic Force Microscopy]  |
| G01Q 60/06        | .. SNOM [Scanning Near-field Optical Microscopy] combined with AFM [Atomic Force Microscopy]   |
| G01Q 60/08        | .. MFM [Magnetic Force Microscopy] combined with AFM [Atomic Force Microscopy]   |
| G01Q 60/10        | . STM [Scanning Tunnelling Microscopy] or apparatus therefor, e.g. STM probes  |
| G01Q 60/12        | .. STS [Scanning Tunnelling Spectroscopy]  |
| G01Q 60/14        | .. STP [Scanning Tunnelling Potentiometry]   |
| G01Q 60/16        | .. Probes, their manufacture, or their related instrumentation, e.g. holders   |
| G01Q 60/18        | . SNOM [Scanning Near-Field Optical Microscopy] or apparatus therefor, e.g. SNOM probes  |
| G01Q 60/20        | .. Fluorescence  |
| G01Q 60/22        | .. Probes, their manufacture, or their related instrumentation, e.g. holders   |
| G01Q 60/24        | . AFM [Atomic Force Microscopy] or apparatus therefor, e.g. AFM probes   |
| G01Q 60/26        | .. Friction force microscopy   |
| G01Q 60/28        | .. Adhesion force microscopy   |
| G01Q 60/30        | .. Scanning potential microscopy   |
| G01Q 60/32        | .. AC mode   |
| G01Q 60/34        | ... Tapping mode   |
| G01Q 60/36        | .. DC mode   |
| G01Q 60/363       | ... { Contact-mode AFM }   |
| G01Q 60/366       | ... { Nanoindenters, i.e. wherein the indenting force is measured }  |
| G01Q 60/38        | .. Probes, their manufacture, or their related instrumentation, e.g. holders   |
| G01Q 60/40        | ... Conductive probes  |
| G01Q 60/42        | ... Functionalization  |

- G01Q 60/44 . SICM [Scanning Ion-Conductance Microscopy] or apparatus therefor, e.g. SICM probes
- G01Q 60/46 . SCM [Scanning Capacitance Microscopy] or apparatus therefor, e.g. SCM probes
- G01Q 60/48 . . . Probes, their manufacture, or their related instrumentation, e.g. holders
- G01Q 60/50 . MFM [Magnetic Force Microscopy] or apparatus therefor, e.g. MFM probes
- G01Q 60/52 . . . Resonance
- G01Q 60/54 . . . Probes, their manufacture, or their related instrumentation, e.g. holders
- G01Q 60/56 . . . . Probes with magnetic coating
- G01Q 60/58 . SThM [Scanning Thermal Microscopy] or apparatus therefor, e.g. SThM probes
- G01Q 60/60 . SECM [Scanning Electro-Chemical Microscopy] or apparatus therefor, e.g. SECM probes
- G01Q 70/00** **General aspects of SPM probes, their manufacture or their related instrumentation, insofar as they are not specially adapted to a single SPM technique covered by group [G01Q 60/00](#)**
- G01Q 70/02 . Probe holders
- G01Q 70/04 . . . with compensation for temperature or vibration induced errors
- G01Q 70/06 . Probe tip arrays
- G01Q 70/08 . Probe characteristics
- G01Q 70/10 . . . Shape or taper
- G01Q 70/12 . . . . Nano-tube tips
- G01Q 70/14 . . . Particular materials
- G01Q 70/16 . Probe manufacture
- G01Q 70/18 . . . Functionalization
- G01Q 80/00** **Applications, other than SPM, of scanning-probe techniques ([manufacture or treatment of nano-structures B82B 3/00](#); [recording or reproducing information using near-field interaction G11B 9/12](#), [G11B 11/24](#), [G11B 13/08](#))**
- G01Q 90/00** **Scanning-probe techniques or apparatus not otherwise provided for**