

**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.

**Guidance heading:**

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| <b>G01Q 10/00</b> | <b>Scanning or positioning arrangements, i.e. arrangements for actively controlling the movement or position of the probe</b>                            |
| 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 }                        |
| <b>G01Q 20/00</b> | <b>Monitoring the movement or position of the probe</b>  |
| 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                      |
| <b>G01Q 30/00</b> | <b>Auxiliary means serving to assist or improve the scanning probe techniques or apparatus, e.g. display or data processing devices</b>                  |
| 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
- G01Q 40/00 Calibration, e.g. of probes**
- G01Q 40/02 . Calibration standards and methods of fabrication thereof
- G01Q 60/00 Particular type of SPM [Scanning Probe Microscopy] or microscopes; Essential components thereof**
- 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**