

Algemene informatie

Aanbesteding: Scanning Probe Microscope ARCNL
Aanbestedende Dienst: Stichting Nederlandse Wetenschappelijk Onderzoek Instituten (NWO-I)
Referentie: -

Toelichting:

Vraag en antwoord

Ref.nr. **Onderwerp:**
14 Requirements (7,8 and 16) of ambient AFM imposed on UHV AFM

Vraag:

These requirements refer to AFM modes in ambient AFM but not being applied to in UHV AFM. For instance tapping mode and Liftmode (which is a Bruker trade mark). It is not likely that any UHV SPM manufacturer will or can guarantee any of these modes neither to have any customer base with experience on these modes.

FM NC_AFM is possible on our instrument.

It is likely that the described experiments are feasible on our instrument but we shall not commit to any level to those.

Therefore we kindly ask to remove requirements relating to these ambient AFM modes of operation like requirements 7, 8 and 16.

Antwoord:

We do not agree and will not remove the requirements 7, 8 and 16. By using the term 'liftmode' we do not want to imply a trademark mode. Any mode that enables keeping the tip at a controlled distance from the sample while performing measurements of the normal and tangential force will be acceptable. Cantilever based contact mode measurements are a strict requirement. Cantilever based tapping mode is not essential as long as there is an equivalent non-invasive imaging mode. For example non-contact topography measurements.

Percelen: P1 Scanning probe microscope ARCNL
Beantwoord op: 12 jul. 2024

Ref.nr. **Onderwerp:**
15 Requirement 24

Vraag:

In requirement 24 the capability of using the SPM at pressures of up to 10⁻⁴ mbar. This is indeed the limit where UHV STMs can operate without

creating plasma coronas at the piezos.

We will not commit to any test at this pressure and ask you to remove this requirement as it is not a property of the instrument.

Antwoord:

We do not want to change this requirement 24. We do see this as a property /specification of the instrument.

Percelen: P1 Scanning probe microscope ARCNL

Beantwoord op: 12 jul. 2024

Ref.nr.

16

Onderwerp:

Wish 16 and 17

Vraag:

We do understand the background of these wishes, though it is not possible to give any guarantee. It does not refer to a property of the instrument.

Any damage occurred by using high pressures of Hydrogen is outside of the warranty and repairs will be charged.

Please remove this wish.

Antwoord:

We will not drop these wishes 16 and 17. We see this as a property /specification of the instrument as the use of hydrogen compatible materials in the instrument will enable achieving operation at higher hydrogen pressures. There are coated piezos or special scanner geometries on the market that can achieve operation at increased pressures.

Percelen: P1 Scanning probe microscope ARCNL

Beantwoord op: 12 jul. 2024

Ref.nr.

17

Onderwerp:

Wish 3, 7 and 13

Vraag:

Wish 3, 7 and 13 refer to experiments made with a Bruker ambient AFM. It is likely possible with UHV STM but there are no references as far as we know.

We ask you to remove this wish.

Antwoord:

We will not drop these wishes and we are convinced that they are achievable by various suppliers.

Percelen: P1 Scanning probe microscope ARCNL

Beantwoord op: 12 jul. 2024

Ref.nr.

18

Onderwerp:

Requirement 19 scanner or tip/sensor exchange

Vraag:

In requirement 19 the exchange of scanner is mentioned in order to switch between STM and AFM. Is here really the scanner meant to be exchanged or the tip/sensor (it is more common to exchange the tip when switching from STM to AFM).

Antwoord:

It is up to the supplier to provide a solution. If this solution only involves exchanging tips that is fine.

Percelen:

P1 Scanning probe microscope ARCNL

Beantwoord op:

12 jul. 2024