



15 April 2008

**International Organization for Standardization**  
Organisation Internationale de Normalisation

**TC 201 Surface Chemical Analysis**  
**SC 1 Terminology**

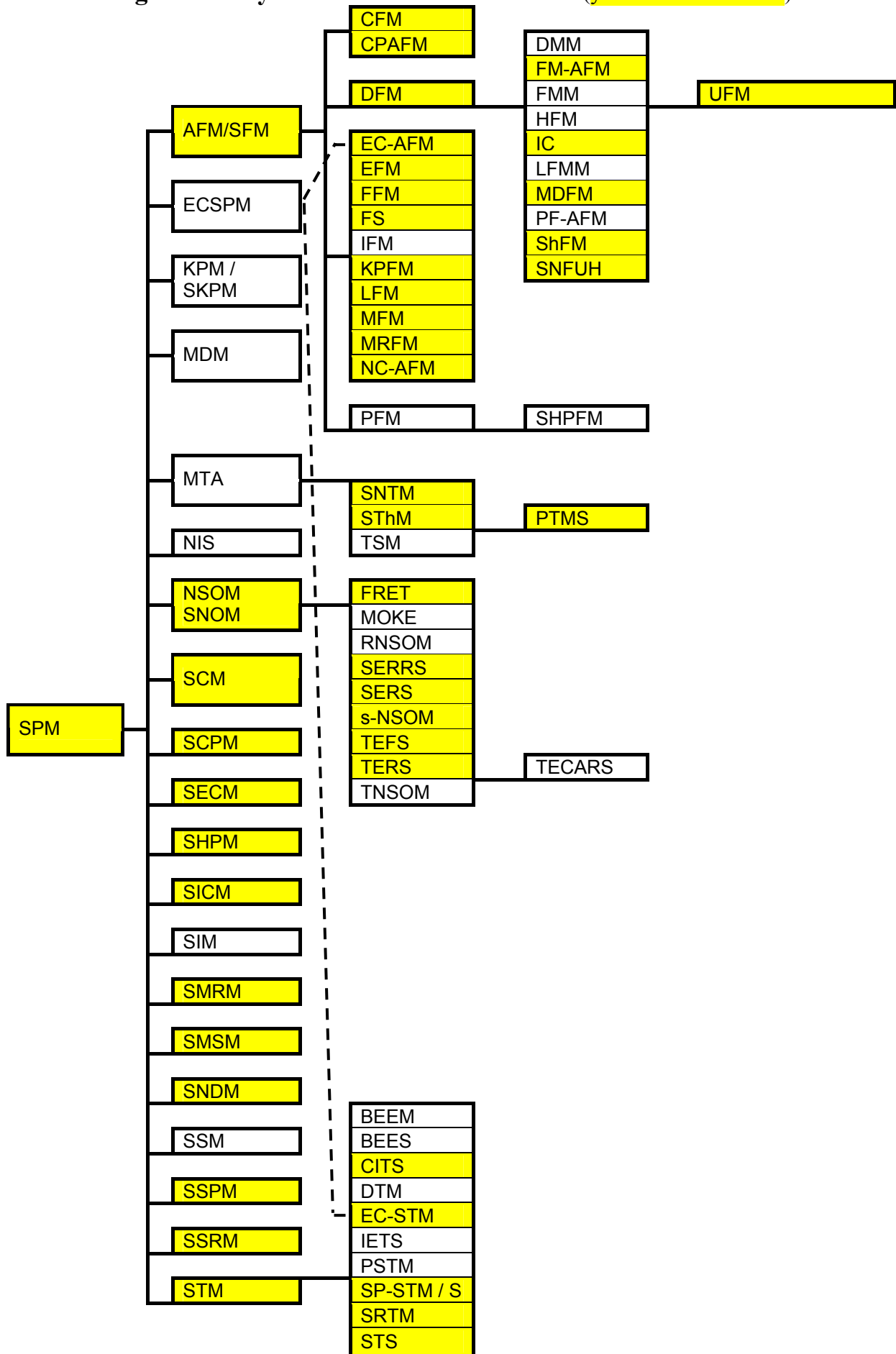
**Vocabularies for Surface chemical analysis**  
**ISO 18115:2001.Amd2 and ISO18115:Part 2.**

775 terms for Surface Chemical Analysis are provided in **ISO 18115:2001** and its two **Amendments**. Word and Excel files of the terms defined may be found at <http://www.npl.co.uk/server.php?show=ConWebDoc.638> . These are now being revised into **ISO 18115 Part 1: General terms and terms for the spectroscopies** and **ISO 18115 Part 2: Terms for scanned probe microscopies** with 227 terms. The attached figures may be found helpful for those defining and using the SPM terms.

- Fig 1 provides a family tree for SPM methods.
- Figs 2 and 3 illustrate complex probes.
- Fig 4 shows the probe assembly and chip carrier.

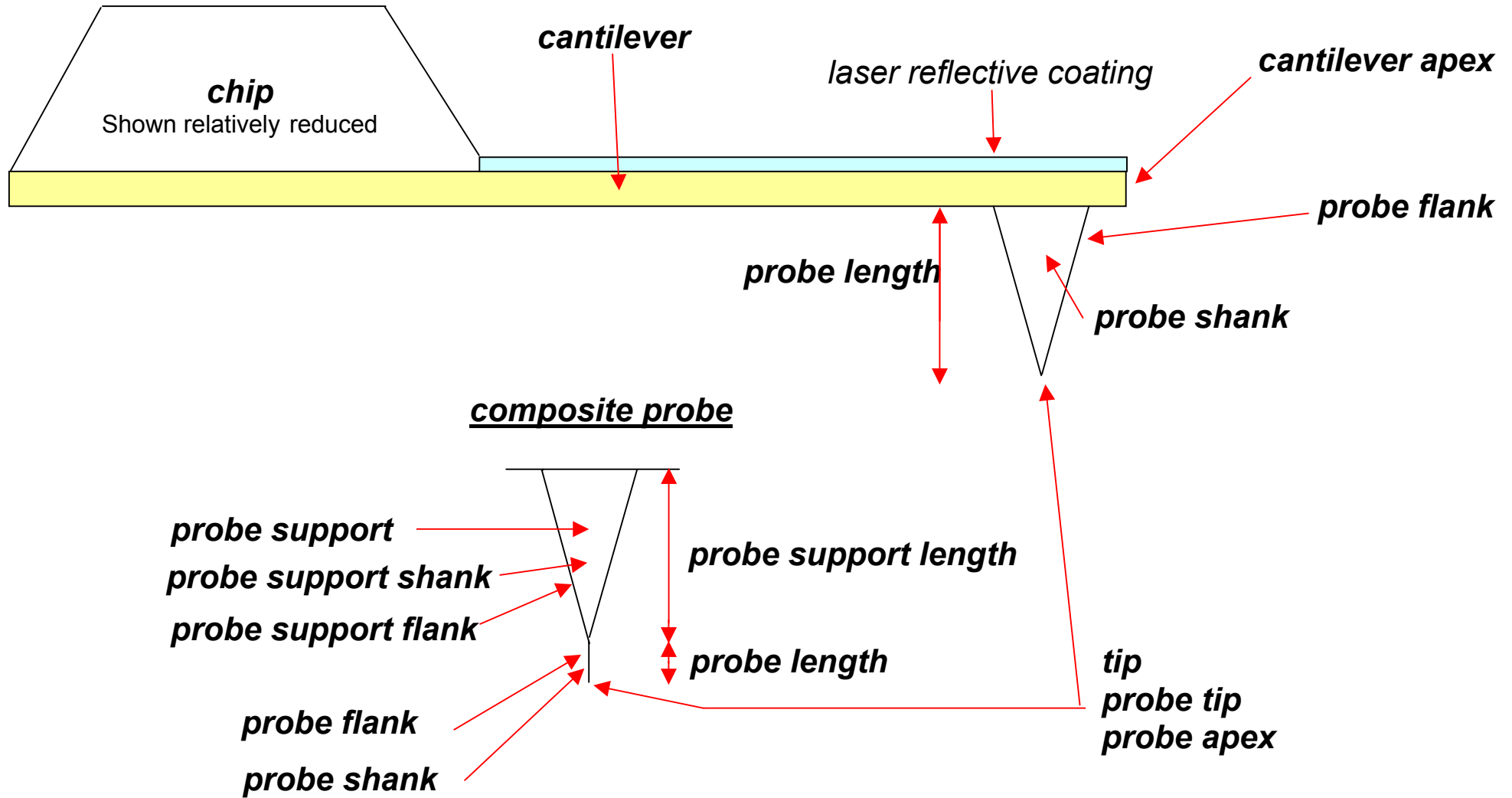
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**Fig 1 - Family tree for the SPM Methods (yellow terms defined)**



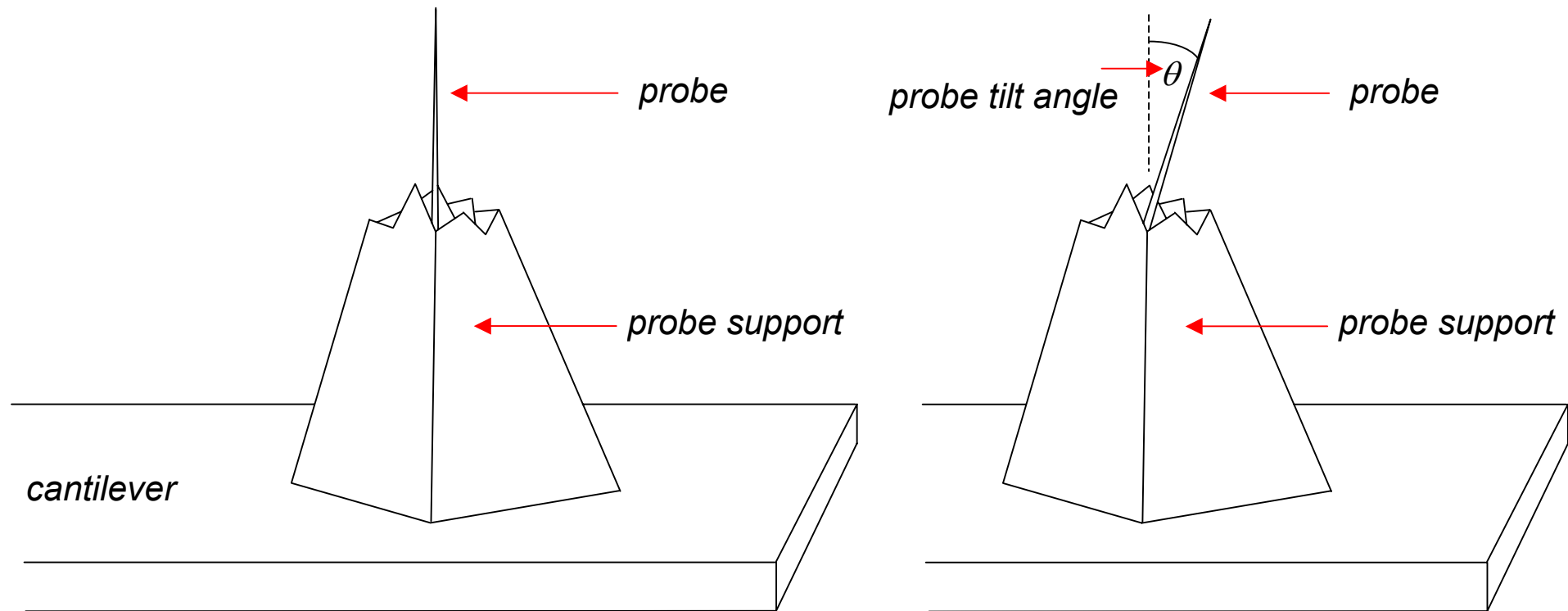
**Fig 2 - Basic and more complex cantilevers, e.g. nanotube on standard mount – The "cantilever assembly"**

If the probe designed to interrogate the surface is mounted on a regular tip, then the regular tip becomes the "**probe support**" and all terms that would normally be attributed to the regular tip are transferred to the new probe. The terms in bold italics are defined.



**Fig 3 – A typical complex FIB machined cantilever.**

Fig 2 exemplified a composite tip based on a **carbon nanotube probe** supported by a regular tip but a **composite probe** may also be FIB machined from a single material as shown schematically below left. There are also **tilt-compensated probes**, as shown right, where we define the **probe tilt angle**.



### **Fig 4 – The complete probe assembly**

The **cantilever assembly** may be mounted on a **chip holder** to make up the complete probe assembly

