

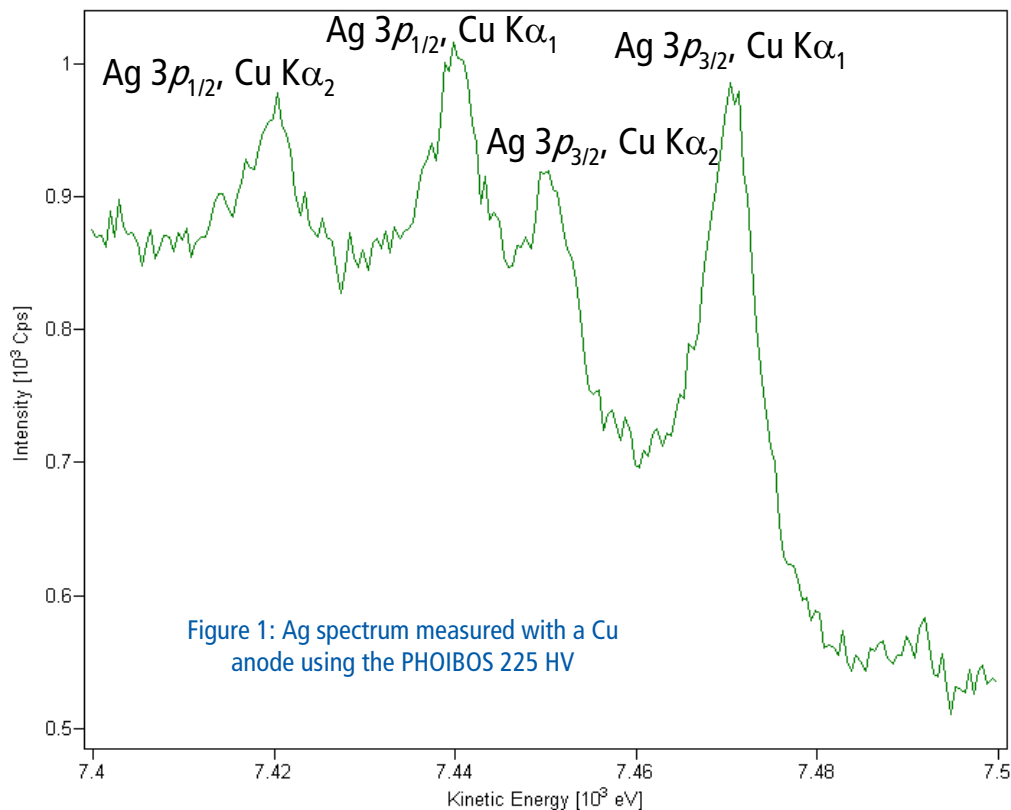
X-ray anodes used for photoelectron spectroscopy

Technical Note

X-ray sources for photoelectron spectroscopy are used with different types of anode coatings. The XR-50 is the SPECS X-ray source with a high intensity twin anode. In the standard configuration the anode of the source is coated on one side with Aluminum given an X-ray K line at 1486.6 eV and with Magnesium on the other side given a K line with 1253.6 eV. Other coatings available include:

- Titanium
- Zirconium
- Silver
- Gold
- Yttrium

Coatings which are not in the list may available on request.



Element	Energy (eV)	Wavelength (Å)	Line width (eV)	Ref.
Y M _γ	132.3	93.7	0.45	1
Zr M _γ	151.4	81.9	0.77	1
Nb M _γ	171.4	72.3	1.21	1
Mo M _γ	192.3	64.5	1.53	1
Rh M _γ	260.4	47.6	4.00	1
C K _{α12}	276.2	44.9		2
O K _{α12}	521.0	23.8		2
Ni K _{α12}	853.4	14.528		2
Cu L _α	931.6	13.308		2
Na K _{α12}	1043.7	11.88	(0.50)	2 (3)
Mg K _{α12}	1253.6	9.89	0.68 (0.61)	1 (3)
Al K _{α12}	1486.6	8.34	0.83	1
Ti K _{α12}	4510	2.75	2.0	1
Cr K _{α12}	5417	2.29	2.1	1
Cu K _{α1}	8055	1.54	2.55	1

$$\lambda (\text{Å}) = 12.4 \times 10^3 / E (\text{eV})$$

References:

- [1] H. Feller-Feldegg et.al., J.Electr.Spectr. 5 (1974) 643-689.
- [2] Landolt-Börnstein, 1. Ergänzungsband Physik.– Chem. Tabellen 145a, page 514.
- [3] Banna, M. S.; Shirley, D. A. J. Chem. Phys. 1975, 63, 4759–4766.

SPECS GmbH
 Surface Analysis
 and Computer Technology
 Voltastrasse 5
 13355 Berlin
 Germany

Phone: +49 30 467824-0
 Fax: +49 30 4642083
 E-mail: support@specs.de
<http://www.specs.de>