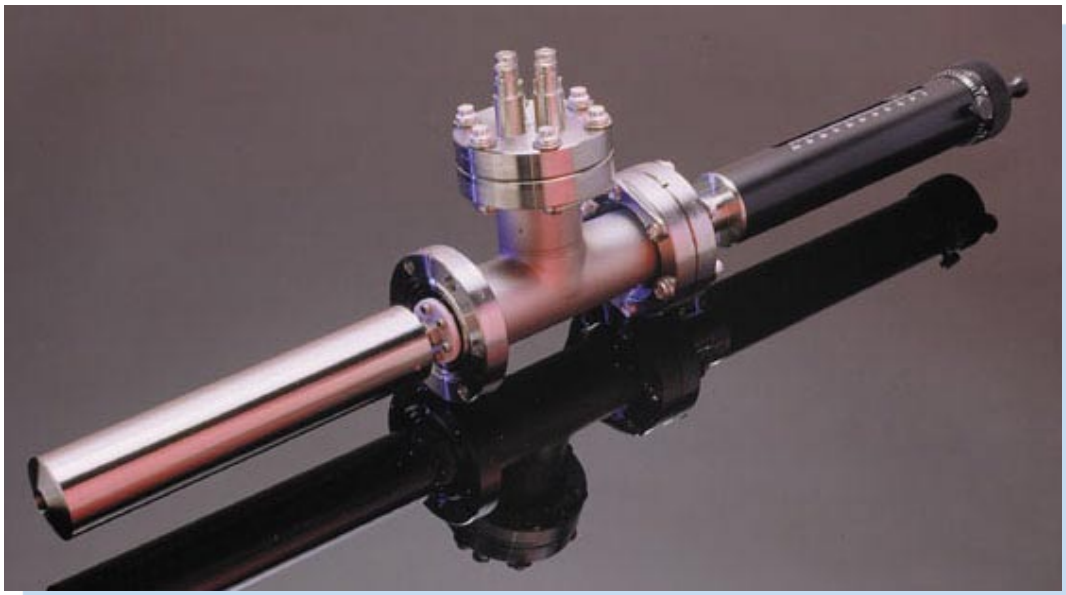
Model CMA 2000

MINICMA™ ELECTRON ENERGY ANALYZER

Retractable Miniature Cylindrical Mirror Analyzer



Performance Features

- Mounting on 2.75" (70mm) flange
- Retractable with linear motion feedthrough
- General electron energy analysis including Auger and Photoelectron spectroscopy
- Double-pass optics with energy resolution better than 1.5%
- Ideal for experiments not accessible by conventional bulky analyzers
- Combine with the RVL2000 LEED optics for a low-cost, high-performance LEED/ Auger system

References

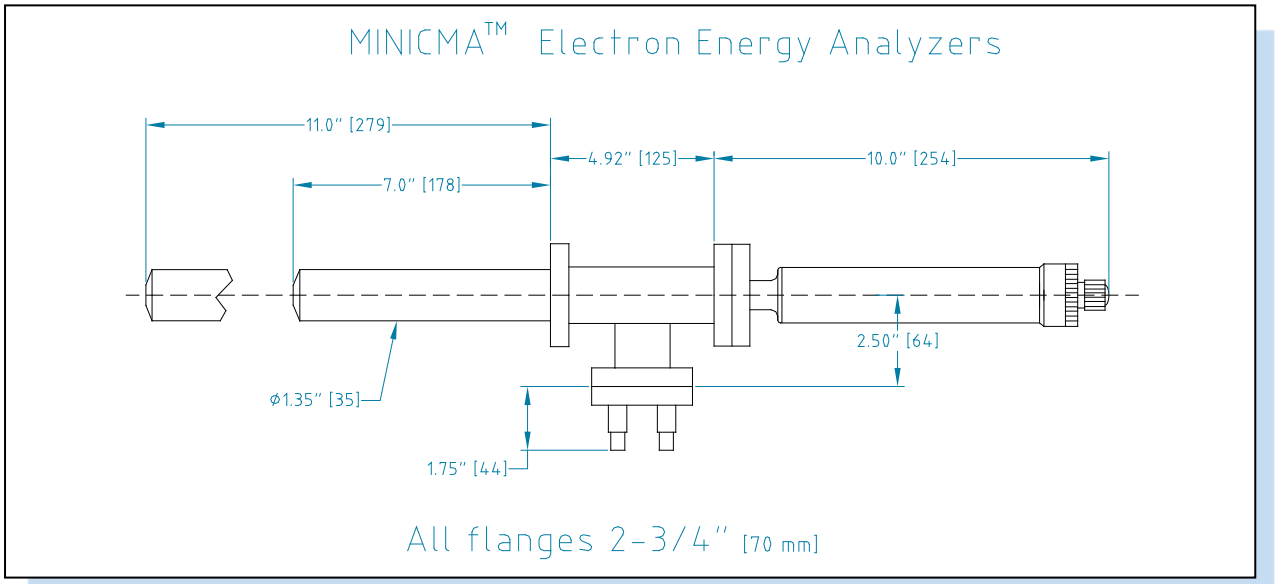
1. D.N. McIlroy, P.A. Dowben, A. Knop and E. Ruhl, J. Vac. Sci. Technol, B13, 2142 (1995).
2. P.A. Dowben et al., Rev. Sci. Instrument,69, 3805 (1998) U.S. and International Patents Pending

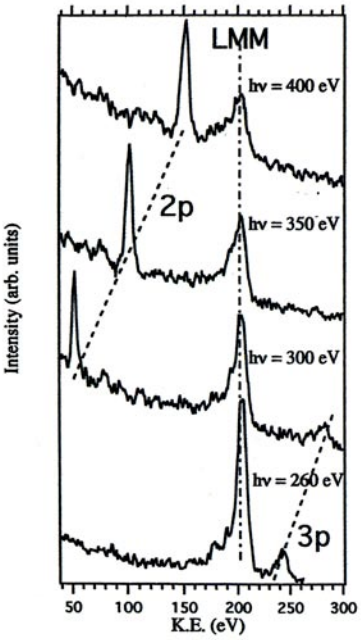
LK Technologies is pleased to introduce the latest addition to its range of electron energy analyzers. The CMA2000 is a versatile, double-pass energy analyzer that fits tight space requirements (diam. 1.35 in. (35mm)) and offers the ability to retract 4.0 in. (100 mm) by means of a linear motion feedthrough.

The mounting on a standard 2.75 in. (70 mm) O.D. flange or larger makes the CMA2000 a unique instrument in its field. The analyzer was invented by Dr. Peter Dowben (University of Nebraska) and his colleagues and builds on his experience with a patented miniature, single-pass CMA.[1] The new double-pass version offers improved energy resolution characteristics while maintaining high transmission.[2] The attached spectra illustrate results obtained by Dr. Dowben and his colleagues on gas phase photoemission from atomic argon. Auger spectra of silicon obtained at LK Technologies are also shown. An energy resolution of 0.7%- 1.5% has been demonstrated by the LK version. Auger spectra are acquired in fast analog mode. Pulse counting is available for photoelectron spectroscopy.

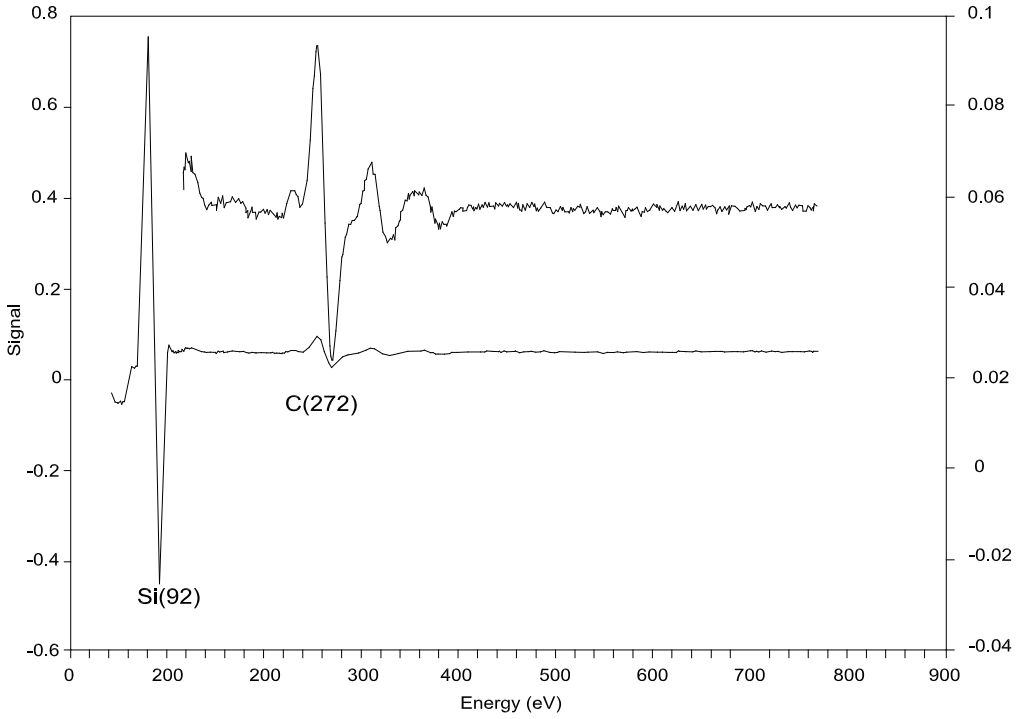
LK TECHNOLOGIES

Manufacturer of precision instrumentation for surface analysis including electron spectrometers, ion and electron guns, and LEED/Auger systems.





Photoelectron spectra of atomic argon acquired at 260 eV, 300eV, 350 eV and 400 eV photon energies with the miniature double-pass cylindrical mirror analyzer.
The characteristic Ar LMM Auger electron line at 205 eV and the Ar 2p lines dominate the spectra.
The Ar 3p line con be seen in the low photon energy spectra. (After Dowben et al., Ref. 2)



Auger spectrum of silicon sample with primary impurity of carbon. Spectrum was obtained in analog mode with the CMA2000 at 2500 eV excitation energy and 10 Vp-p modulation voltage.

LK TECHNOLOGIES

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