

# DEFLECTION UPGRADES FOR DA30-L(R) AND DA30-L(W)\*

scientaomicron

## Added Deflection Mode Capabilities

The deflection feature is a big advantage as it allows to keep the sample in a fixed position and instead uses the deflectors to change the angular range in  $\theta_y$  projected on to the analyser slit. This ensures the same position of the sample is probed during the whole measurement. In addition, keeping the experimental geometry fixed throughout the measurement sequence avoids matrix element effects which are caused by variations in ionisation cross section for different photon to sample angles. This allows to acquire higher quality data using the faster and more precise electronic deflection compared with mechanical sample movement. Another advantage, for some samples, is that decreased rotation requirements allow manipulators with fewer degrees of freedom to be used. This ultimately allows for lower sample temperatures to be reached.

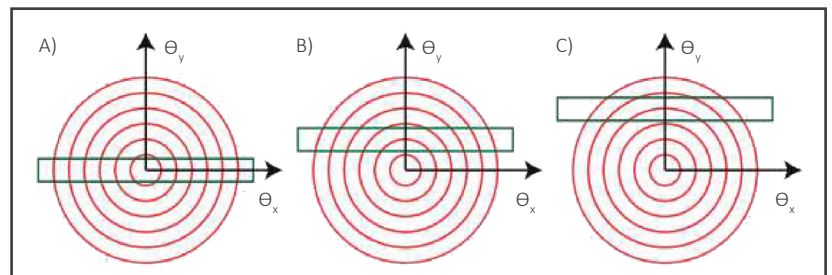


Figure 1. Sequential deflection along  $\theta_y$  enables measurements of the whole acceptance cone of the analyser without tilting the sample.

A) Deflectors off, B) and C) Increasing deflection along  $\theta_y$

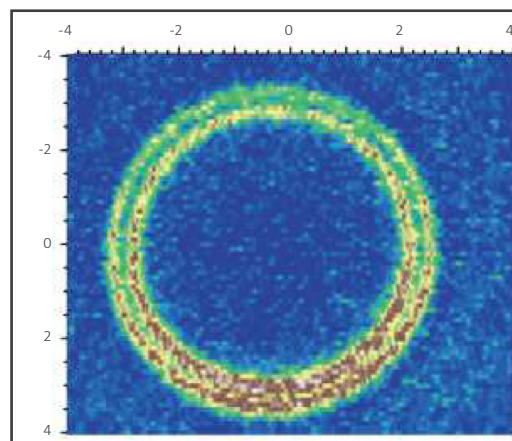


Figure 2. Fermi surface map of Au(111). Scan mode using angular mode 30. Sample was not moved and spectrum was recorded at 77 K. Measuring time: less than 1 min.

Data courtesy:  
Dr. Ivana Vobornik, CNS-IOM,  
TASC Laboratory, AREA Science  
Park, Trieste, Italy.



From the Electron Spectrometer Pioneers:  
The DA30-L Angle Resolved Electron Spectrometer.

### Deflection Mode Advantages:

- Improved ky accuracy (resolution better than  $0.1^\circ$ )
- Time saving by electronic deflection
- Fixed matrix elements during scan
- Reduced manipulator requirements
- Ensures same spot for all  $k//$
- Patented deflector concept
- Sequential full cone detection

Please contact your local Scienta Omicron sales office for a quotation.

\* DA30(R), DA30-L(R), DA30-L-8000(R), DA30-L(W).



## Summary

### Part number:

- 200476 Full Deflection Upgrade for DA30 (R)  
 $\pm 3.5^\circ$ ,  $\pm 7^\circ$ ,  $\pm 15^\circ$  in deflection mode\*
- 201155 Deflection Upgrade for DA30 (W)  
 $\pm 3.5^\circ$ ,  $\pm 7^\circ$  in deflection mode\*
- 201150 W-Deflection Upgrade for DA30 (R)  
 $\pm 15^\circ$  in deflection mode\*

### Parts included:

- HV-cards
- JLD Filter box
- Optical fibres
- Lens table upgrade

### Prerequisites:

- DA30(R)
- DA30-L(R)
- DA30-L-8000(R)
- DA30-L(W)

### Onsite effort:

- Does not require SO Engineer on site

### Options:

- Combine with other upgrades, installation and onsite training

## How to contact us:

Europe and other regions:

[services@scientaomicron.com](mailto:services@scientaomicron.com)

North America:

[services-NA@scientaomicron.com](mailto:services-NA@scientaomicron.com)

China:

[services-CN@scientaomicron.com](mailto:services-CN@scientaomicron.com)

Japan:

[services-JP@scientaomicron.com](mailto:services-JP@scientaomicron.com)