SHRIMP

Pioneering the Technique, Perfecting the Technology

SHRIMP II Automated Analyses

ASI is pleased to announce the availability of the AUTOMATION extension to the *SHRIMP* software, developed by the *SHRIMP* team at the Australian National University.

Automation enables unattended analysis of samples thereby greatly increasing productivity from the laboratory. A combination of ion optics and light optics allows the sample stage to travel to the analysis list, keeping cumulative stage errors to a minimum.

Data entry is easy; off-line through marked-up jpeg images, or on-line directly on the samples in the *SHRIMP*.

Images are taken and saved of all analysed locations. The current image as well as a snapshot of the latest data can be presented through a web server for remote monitoring.

Implementation is intuitive, quick and guided for optimal performance and results
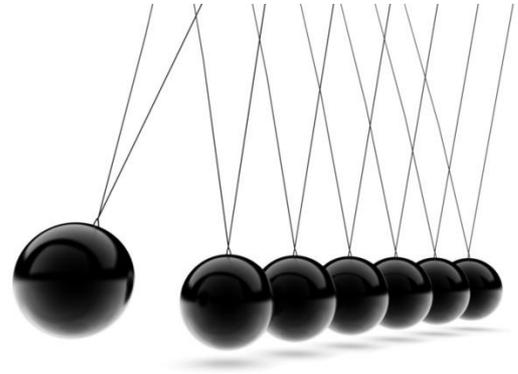
Automation has Three Modes;

Single collector data acquisition uses the standard Acquisition window in the "Autorun" mode. Autorun optionally tunes selected elements from the primary and secondary column.

Multiple collector data acquisition runs the MC Ratio Measurement from "Start Autorun". This mode also allows automatic tuning of the primary and secondary column.

Mass scans for extended mass range acquisition. Multiple mass scans are accumulated over an extended mass range for each selected spot.

AUTOMATION can check the ^{204}Pb count, and/or perform a quick ^{207}Pb/^{206}Pb ratio check, to screen out grains with high common lead content, or select only those grains in a certain age band to be analysed in detail.

AUTOMATION drives to user-selected locations on the sample mount. The list of sample spots can be created on-line by driving to the desired locations and adding them to the list, or off-line using custom software and an overall map of the mount (jpeg image). This can be any jpeg image, including visible light, cathodoluminescence or backscattered electron images.

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SHRIMP II Automation

The automation software can correct for positional drift in the stage with advanced image pattern matching that compares a stored template image with the current image on subsequent visits to the same location. Alternatively, optical encoders on the stages can be used.

The software automatically provides optimal ion focussing and secondary beam steering across a sample mount.

Other functions also ensure the unattended automated runs are robust;

- If the pattern match or tuning fails, AUTOMATION drives the stage to its home limit switches to re-establish a point of reference. It then analyses the same location again. If it fails a second time, the current location is abandoned and the software moves on to the next location.

- The hunt mode can drive the stage in a fixed pattern around the current location if there are no secondary ions detected when looking for maximum signal. The hunt mode thereby 'looks' for a grain if it is missed.

[->] The high resolution USB imaging camera fitted with a Nikon zoom lens. The image shown above has been marked for automatic analysis.

Where would you rather be?

For further information please contact:

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