

RESOlution

exceptional laser ablation

Competitive & Affordable

RESOlution SE Model

The new SE model is one of the smallest excimer systems available, and the only LA-ICP-MS platform to offer Laurin Technic sample cells and pioneering Geostar μ GIS™ software for exceptional ablation. Utilising the latest in ATL laser technology for longest laser life, increased optical performance and minimal laser maintenance.

- Smaller footprint
- High fluence $20\text{J}/\text{cm}^2$
- Fully integrated laser control
- Polarisation module included
- Reduced laser running costs



Laurin Technic S155 Ablation Cell

The Laurin Technic laser ablation cell was developed by Michael Shelley, formerly of the ANU. Its design incorporates many sophisticated features that combine to deliver excellent results.

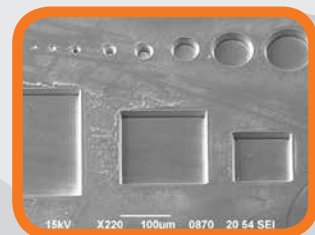
A dual-volume design ensures all your sample reaches the ICP as quickly and efficiently as possible. Published results demonstrate that this cell delivers:

- Ultra-fast washout times
- Outstanding signal sensitivity
- Highly uniform signal across the entire cell
- Minimal fractionation

A range of advanced and flexible mounting options are available along with the option of custom designed sample holders.

The S155 Laurin Technic laser ablation cell incorporates the same advanced features as the M50A, with over six times the accessible area!

- Movement range of $155\text{mm} \times 105\text{mm}$
- Mount up to 20 standard 1" mounts
- Mount up to 6 full-size thin section slides
- No performance compromise



Cryo Cell Development

A cryo cell option is available for the M50A sample cell and a cyro sample holder will soon be available for the S155 sample cell. The M50A cryo cell has already achieved successful results with ice core sample studies (Müller et al., JAAS, 2011, 26, 2391).

MADE IN AUSTRALIA

Geostar μ GIS™ Software

GeoStar μ GIS™ Geostar software has been specifically written for RESOLUTION instruments. Its intuitive interface is easy to learn and it allows new users to get started very quickly. An extensive range of sophisticated features ensures that any researcher can easily program an ablation sequence. The software is great for both manual point selection and for automated runs thousands of points long.

Special design features make sample navigation a breeze: rich sample imagery and automated mosaic collection will ensure you always choose the correct grain, phase, or growth band for ablation.

The unique structured interface is simple for both students and professors to learn, along with many powerful features for the conscientious laboratory manager:

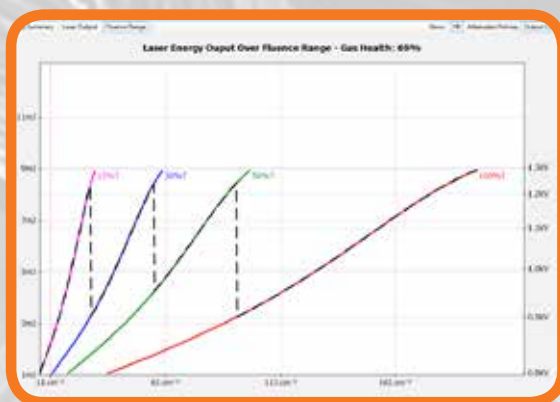
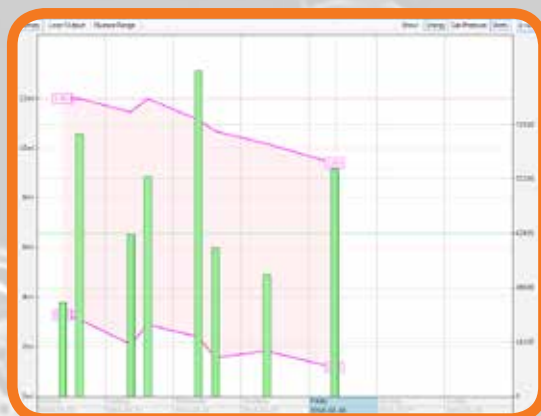


- Completely automated instrument control
- Integrated on-sample fluence calibration and laser energy management.
- Visual-Stage-Correction offers sub-micron positioning.
- Import images from any source, such as an SEM or petrographic microscope.
- Integrate with any ICP-MS.

GeoStar is designed for complete automation, while also offering manual point-by-point ablation. When creating an automated sequence the software supports many thousands of points, and offers:

- Drag and drop reordering
- Cut and paste reordering
- Undo and redo operations
- Visual and name-based selection
- “Distribute” feature automatically brackets samples with standards

Laser fluence management ensures the correct on-sample fluence throughout the working week. Laser output is continuously monitored for reliable gas handling and exceptional laser ablation.



SE - Specifications

| | |
|---------------------------------|--|
| Ablation Cell | S155 / M50A |
| Laser Safety | Compliant to FDA/CDRH 21 CFR, Class I laser system, laser fully interlocked, fully enclosed beam path. |
| Laser Wavelength | 193 nm (Laser ATLEX-I-LR) |
| Laser Pulse Width | 5 - 7 ns |
| Internal Energy Meter | Yes (closed-loop feedback) |
| #Maximum Pulse Energy | 10 mJ |
| †Maximum Average Power | 1.5 W |
| Pulse-to-Pulse Energy Stability | < 2% RSD |
| Maximum Repetition Rate | 300 Hz |
| Cooling | Air |
| Maximum Fluence | 20 J/cm ² |
| Round / Square Spot Sizes | 2–300 μ m* (*with Beam Expander Option) |
| Rectangular Slit Sizes | Length: 2–300 μ m* Width: 2–300 μ m* (*with Beam Expander Option) |
| Stage Movement Range | M50A: 50 x 50 mm S155: 155 x 105 mm |
| Stage Reproducibility | $\leq 2\mu$ m (2DRMS) |
| System Weight | 725 kg (1600 lbs.) |
| System Width | 119 cm (47") |

*Measured at low repetition rate.
†Measured at maximum repetition rate.