

CETAC Laser Ablation Instruments are Easily Interfaced to Agilent ICP-MS

CETAC Laser Ablation instruments can easily be interfaced to Agilent ICP-MS for triggering and automation through the use of a triggering cable attached to the remote port on the LSX and the proper pin-out connections on the ICP-MS. Before automation can be conducted, however, it is important that the user set up method correctly to properly evaluate and optimize ICP-MS signals from ablated materials. The following is not intended as a fully comprehensive guide. However, it will briefly show a few of the “key” steps in viewing the real-time spectra and exporting the acquired files in a suitable form for use by the CETAC data reduction program GeoPro.

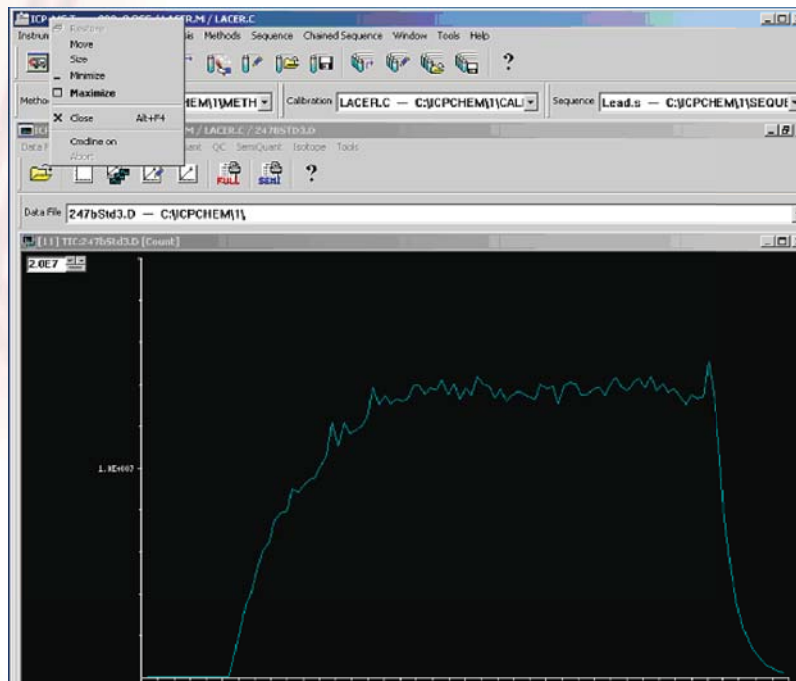
First, the ICP-MS method is created for analysis of the elements of interest. The user can set up the proper parameters (for viewing the real time spectra) while creating the method or simply reopen an existing method. To reopen a previously created method, go to “Methods” and select “Edit Entire Method.” Eventually (after several screens) an edit item called “Acquisition Mode” will appear. At this point the user sets up the method for viewing the real time LA-ICP-MS spectra by selecting “Time Resolved Analysis.” A new screen will appear called “Time Resolved Acquisition Parameters.” Here the user simply selects “Real Time Plot,” checks the boxes for “Plot1” and “Plot 2” and selects “Extract” for each as shown in the blue box. the method is now set up to view LA-ICP-MS spectra real time.

The screenshot displays the Agilent ICP-MS software interface. The main window is titled "ICP-MS Top - 200_8.QCC / LACER.M / LACER.C". Below the menu bar, the "Method" is set to "LACER.M" and the "Sequence" is "cccoat.s". A secondary window, "ICP-MS Acquisition - LACER.M / NIST11412-3.0", is open, showing the "Time Resolved Analysis Acquisition" dialog box. This dialog box is partially obscured by the "Real Time Plot" dialog box. The "Real Time Plot" dialog box has two sections, "Plot 1" and "Plot 2", each with a "Total Chart" and "Extract" radio button. The "Extract" buttons are selected. Below these are dropdown menus for mass numbers: Plot 1 has 7, 11, 23, 24, 27, 29; Plot 2 has 39, 44, 57, 66, 88, 111. A "Time Window" of 35 sec is set. The background window shows a mass spectrum plot and a table of integration times.

Elem	per Point	per Mass	Detector
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	
0.10	0.10	Auto	



In order to export the acquired LA-ICP-MS spectra for use in an external data reduction program, such as CETAC's GeoPro program, the user must follow a few easy steps. First, the user simply performs a right mouse click on the icon in the upper left hand corner of the main screen. Next the user selects "Cmdline on."



After selecting "Cmdline on" a space appears in the bottom part of the screen. Here the user types "TABCHART" and presses "Enter" on the keyboard, and the LA-ICP-MS data file will be exported to the Data File Directory in the appropriate time resolved format (CPS vs. Time). Data files are now ready for processing by the GeoPro data reduction program.

