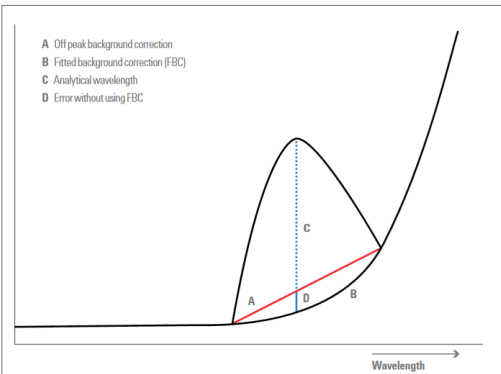




ICP-OES Background and Interference Removal

Accurate. Easy. Reliable.



Fitted Background Correction calculates the true background signal, improving accuracy and saving time during method development.

ICP Expert software algorithms that deliver accurate, reliable results

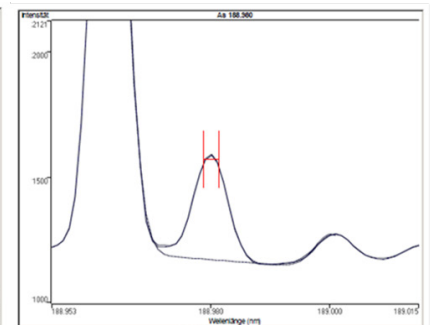
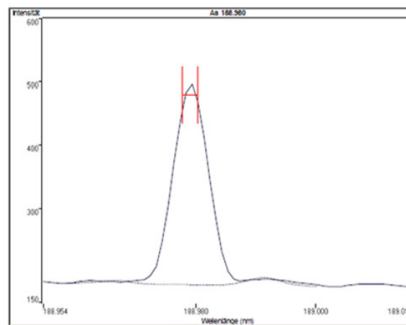
Agilent supplies two different algorithms for ICP-OES background correction:

- Fitted Background Correction (FBC) for accurate and fast correction of simple and complex backgrounds, and
- Fast Automated Curve Fitting Technique (FACT), for highly complex backgrounds

Fitted Background Correction (FBC)

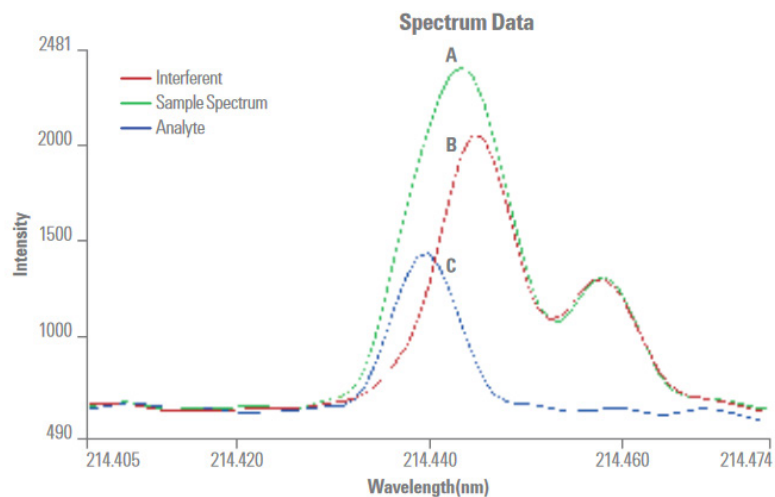
Features

- Utilizes a sophisticated mathematical algorithm to model the true background signal under the analyte peak
- Automatically provides accurate correction of both simple and complex background structures
- Easily handles background for spectra where setting off-peak correction points is difficult
- Takes the guess work out of setting off-peak background correction points



Agilent's Fitted Background Correction automatically provides accurate background correction, even for spectra where setting off-peak correction point would be challenging (right).

FACT (Fast Automated Curve-fitting Technique)



Resolve spectral interference with FACT

Resolution of the difficult Fe interference at Cd 214.438 nm. Shown are:

- Appearance of the peaks in a soil sample,
- FACT model of the interference,
- Corrected signal for the Cd analyte.

| Element & wavelength (nm) | Off-peak MDL (ppm) | Fitted MDL | FACT MDL (ppm) |
|---------------------------|--------------------|------------|----------------|
| Pb 261.618 | 1.69 | 1.363 | 0.119 |

Method Detection Limits determined for Pb 261.618 nm in gasoline diluted in kerosene on the Agilent 5100 ICP-OES using Off-peak, Fitted and FACT background correction techniques. Using FACT to model the complex background structure of gasoline in kerosene, a far more accurate measurement of the analyte signal is possible, lowering the detection limit.

Features

- Simpler, more convenient alternative to inter-element correction (IEC) to remove complex spectral interferences
- Accurately corrects for spectral interferences by applying a highly sophisticated, spectral modeling technique
- Provides accurate background correction for highly-complex background structures where other techniques are unsuitable

Benefits

- Easy-to-use: create FACT models by measuring expected components separately (typically blank solution, pure analyte solution and pure interferent solutions)
- Save time: FACT models can be created either before or after analytical data collection, eliminating further sample preparation, sample re-analysis and erroneous data analysis
- Improve detection limits for challenging samples, such as organic solvents, which results in complex background structures

For more information, visit:

www.agilent.com/chem/5110icpoes

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