

Use of Image

IMAGE allows the acquisition of the complete emission spectrum of a sample in less than 2 minutes.

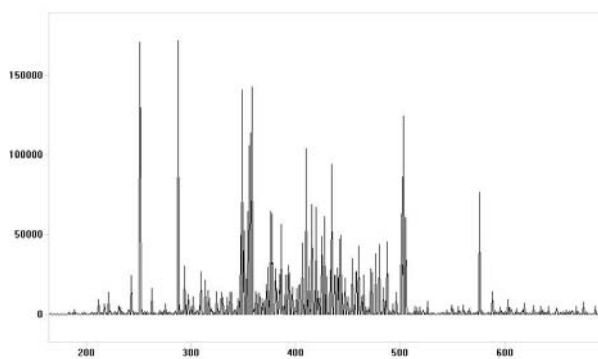
IMAGE takes advantage both of the resolution and the mechanical stability provided by the JY monochromators to generate high quality spectra and of the High Dynamic Detector to accommodate the necessary dynamic range of the measurements from ppm level to 100%

Identification of elements, comparison of spectra and to a library are the various modes of opera-

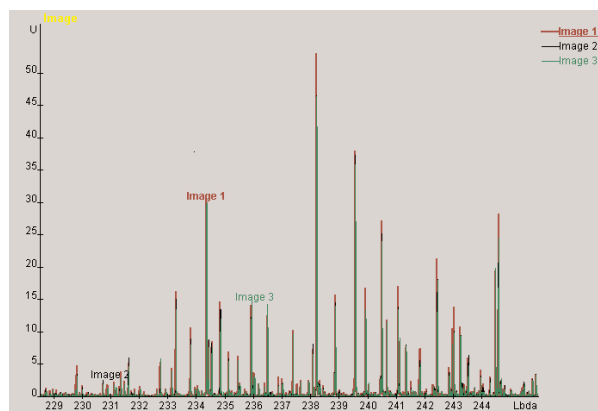
ting with Image. IMAGE also allows looking at a sample spectrum long after the analysis is made to check, for example, for potential unexpected elements.

Using IMAGE and a new library of theoretical emission wavelengths recently published by R. Payling JY is developing a specific library of useful GD lines for different matrices.

These lines are often different from the classical Spark or ICP lines usually tabulated and their intensities are matrix dependant.



Order	Comment	Element	Wavelength (nm)	Low Energy (eV)	High Energy (eV)	Lower Upper Transition	A (x10 ³ s ⁻¹)	Intensity (a.u.)
1	3d	CuII	100.330	21928.75	2174.430	3d5 3d4 4s 4p 3d 4s 3d 3	0.30000	0.00000
2	5s	CuII	100.626	26264.57	12592.80	3d5 3d 4s 4p 4s 4d 3d 4s 4d 3d 3	20.00000	0.00001
3	6s	CuII	100.7025	21928.75	121079.10	3d5 3d 4s 3d 4s 4d 3d 4s 4d 3d 3	21.00000	0.00011
4	5s	CuII	100.7695	22847.13	121969.80	3d5 3d 4s 3d 4s 4d 3d 4s 4d 3d 2	25.00000	0.00007
5	6s	CuII	100.9527	26264.57	125348.10	3d5 3d 4s 10s 3d5 3d 4s 4d 3d 3	11.00000	0.00001
6	5s	CuII	100.9711	26264.57	125230.10	3d5 3d 4s 10s 3d5 3d 4s 4d 3d 3	9.40000	0.00001
7	6s	CuII	100.9687	21928.75	120876.00	3d5 3d 4s 3d 3d 4s 4d 3d 3	3.40000	0.00001
8	6s	CuII	101.0634	22902.30	122867.20	3d5 3d 4s 3d 3d 4s 4d 3d 3	4.10000	0.00001
9	5s	CuII	101.0779	21928.75	120789.80	3d5 3d 4s 3d 3d 4s 4d 3d 3	0.33000	0.00000
10	6s	CuII	101.1025	21928.75	120867.20	3d5 3d 4s 3d 3d 4s 4d 3d 3	1.50000	0.00001



Element	Concentration
ArI	264.960 1
ArI	317.296 0.4
ArI	345.497 9
ArI	347.676 45
ArI	348.155 80
ArI	351.441 45
ArI	354.584 45
ArI	355.949 90
ArI	356.433 10
ArI	357.665 90
ArI	358.239 25
ArI	358.848 110
ArI	376.527 40
ArI	376.086 30
ArI	386.853 30
FeI	208.972 0.0075
FeI	234.355 0.25
FeI	238.204 3
FeI	239.563 1.55
FeI	240.489 0.85
FeI	248.326 0.8135
FeI	249.400 0.12
FeI	244.617 x 1e

Key points : IMAGE is a great research tool offering full spectrum coverage with high resolution and dynamic.