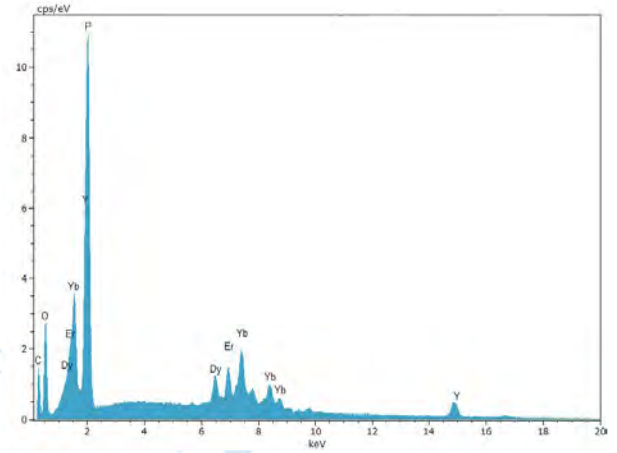


## ENERGY DISPERSIVE X-RAY SPECTROSCOPY

Samples exposed to high energy electrons in a vacuum generate x-rays due to secondary electron transitions. Variations in electron configuration specific to each element create different energy electrons. These electrons allow the x-rays generated from a sample to be analyzed in order to determine elements present in the sample. Analysis is performed only on areas which are exposed to the electron beam, allowing for the spectrum to be precisely sourced, and the composition of discrete areas or particles in a sample to be taken.



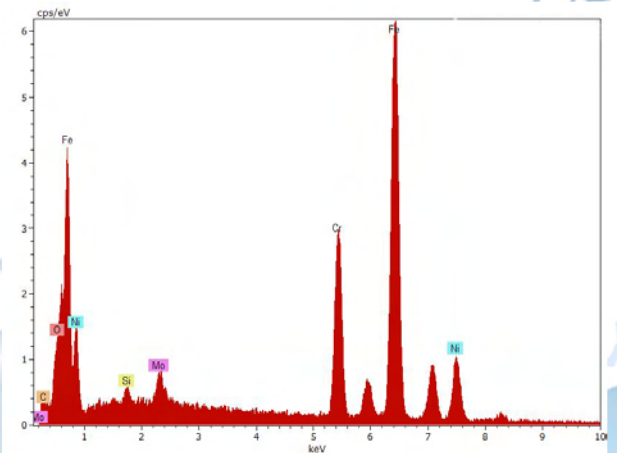
### Advantages:

- Spectral information can be gathered from areas as small as 1 cubic micron
- All elements analyzed simultaneously
- Relative concentrations in weight, oxide, or atomic formula percentages can be obtained from the EDX spectra
- Modern Detector allows for rapid analysis and concentration analysis in less than a minute
- Full data sets are indexed, allowing for additional data analysis
- Multiple data points, line profiles, or regions compared in a single imaged area

Element	AN	series	Net	[wt.-%]	[norm. wt.-%]	[norm. at.-%]	Error in %
Carbon	6	K-series	2671	6.644404305	6.50953383	12.22972508	1.926554106
Calcium	20	K-series	2197	0.398768174	0.390673836	0.219965343	0.040574641
Titanium	22	K-series	1044	0.209166597	0.204920859	0.096577954	0.041273696
Yttrium	39	K-series	3852	7.439609665	7.288597829	1.84994739	0.694869708
Niobium	41	K-series	3526	14.02338146	13.73872989	3.336928693	0.52862746
Cerium	58	L-series	11789	3.274531862	3.208064057	0.516641009	0.191573056
Neodymium	60	L-series	13646	3.709035846	3.633748521	0.568479918	0.20943448
Samarium	62	L-series	6720	1.834335195	1.797101209	0.269703258	0.272494861
Dysprosium	66	L-series	6775	1.979563481	1.939381599	0.269312108	0.084202555
Thorium	90	L-series	2852	4.50808489	4.416578184	0.429509323	0.258061394
Oxygen	8	K-series	5423	58.05101018	56.87267019	80.21320992	85.87494725
		Sum:		102.0718915	100	100	

### Application Fields:

- Environmental Testing
- Materials Identification
- Electronics
- Ceramics and Filtration
- Metallography
- Construction and Manufacturing
- Home Inspection
- IAQ
- Pharmaceuticals and Medical Devices



Learn more at <http://www.microvisionlabs.com>