

Variance–covariance

$$\sigma(x, y) = \langle (x - \langle x \rangle)(y - \langle y \rangle) \rangle$$

For sampled data: n observations of variables j and k

$$q_{jk} = \frac{1}{n-1} \sum_{i=1}^n (x_{ij} - \bar{x}_j)(x_{ik} - \bar{x}_k)$$

	Fe/(Fe+Mg)	Al	Si
Fe/(Fe+Mg)	0.000564	-0.001234	0.000550
Al	-0.001234	0.003494	-0.001511
Si	0.000550	-0.001511	0.000944