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amc technical briefs

Standard additions: myth and reality

'Standard additions' is a generally applicable calibration technique, devised to overcome a particular type of matrix effect that would otherwise give rise to a biased result. This 'rotational effect' is manifested as a change in the slope of the calibration function. But the standard additions paradigm found in many textbooks does not tell the whole story. We must recognise that the method cannot overcome other types of matrix effect, which must be eliminated by additional measures before standard additions can be effective. Properly implemented, however, standard additions eliminates rotational effects with a negligible effect on precision.

Rotational and translational matrix effects

The method of standard additions

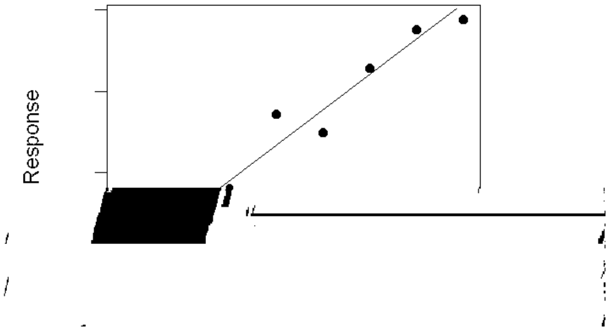

Figure 2

Does standard additions degrade precision?