

MULTISIGHT DETECTION IN FLOW ANALYSIS
PART 1. COMMUTATION FOR ACHIEVEMENT OF DETECTOR LEAPING

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A single detector can be coupled to several detection sites in a flow-injection network in order to permit parallel and serial monitoring. Leaping of the detector can be accomplished by using a single commutator. Potentialities and limitations of multisight detection are discussed and the influence of the main involved parameters, such as dead volume of the leaping detector with accessories, manifold dimension and commutation timing are investigated. The approach is exploited in developing flow-injection procedures for the quasi-simultaneous spectrophotometric determinations of aluminum and iron in plant digests with parallel monitoring and for iron speciation involving serial monitoring. In addition to analytical throughput, other characteristics of these systems, like reproducibility and accuracy are superior relatively to the analogous single flow-injection systems. Small dead volume for flow-cells and connecting tubing is shown to be a desirable feature.