

**COLLECTION HARDWARE FOR HIGH SPEED
MULTISPECTRAL SINGLE PARTICLE ANALYSIS**

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With a significant increase in the number of detectors present on next generation cytometry instruments, it is clear that new techniques must be developed that will both reduce the cost and complexity of cell analysis systems. For example, current commercial instruments have between 10 and 15 PMTs, and a complex system of optical components. There are some very complex issues involved if next generation instruments are to increase the number of different fluorochromes that can be identified simultaneously. This requires changes in both hardware and software that allows for the analysis of in excess of 30 spectral signals. Further, the analysis of complex data sets requires some completely new approaches, particularly in the area of multispectral analysis. This paper describes the key system components and principles involved in achieving our goals for a next generation instrument.