

- 5 What is claimed is:
1. A system comprising:
a flow cell configured to propagate a sample in a flow stream;
a light source configured to irradiate the sample in the flow cell;
- 10 a detector unit configured to differentially detect light from the flow cell, wherein the detector unit comprises an optical adjustment component and a detector, and the detector unit differentially detects light from the flow stream by modulating:
one or more components of the optical adjustment component; or
the detector; and
- 15 wherein the light from the flow cell contacts the optical adjustment component directly, and the detector unit is configured to obscure light received from a portion of the flow cell and permit the detection of light received from a different portion of the flow cell.
2. The system according to claim 1, wherein the detector comprises a detector array.
- 20 3. The system according to claim 2, wherein the detector array comprises an array of photodiodes.
4. The system according to claim 3, wherein the detector unit is configured to
- 25 differentially detect light from the flow stream by deactivating a subset of the photodiodes in the array.
5. The system according to claim 1, wherein the optical adjustment component comprises a fused fiber optic component and the detector comprises a detector array.
- 30 6. The system according to claim 5, wherein the fused fiber optic component comprises a tapered fused fiber optic bundle.
7. The system according to any one of claims 5-6, wherein the detector unit further
- 35 comprises a light conducting material positioned between the fused fiber optic component and the detector array.
8. The system according to claim 1, wherein the optical adjustment component comprises one or more lenses.

- 5 9. The system according to any one of claims 5-7, wherein the detector array comprises an array of photodiodes.
10. The system according to claim 1, wherein the optical adjustment component comprises a micro-opto-electro-mechanical system.
- 10 11. The system according to claim 10, wherein the optical adjustment component comprises a digital micro-mirror device.
12. The system according to any one of claims 1-11, wherein the system is a flow
15 cytometer.
13. A method comprising:
irradiating a flow cell comprising a sample in a flow stream with a light source; and
detecting light from the flow cell with a detector unit according to any one of claims 1-
20 11 that is configured to differentially detect light from the flow cell.
14. A kit comprising:
a flow cell configured to propagate a sample in a flow stream;
and
25 a detector unit according to any one of claims 1-11 configured to differentially detect light from the flow cell.