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(54) Title: SYSTEMS AND METHODS FOR IMPROVED IMAGING AND FLUORESCENCE IN FLOW CYTOMETRY AND OTHER APPLICATIONS

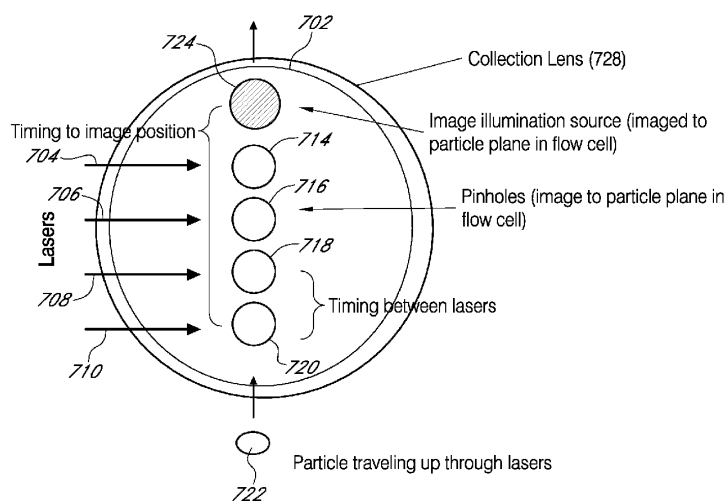


FIG. 7

(57) Abstract: Provided are systems and methods that allow for brightfield imaging in a flow cytometer, allowing for collection of fluorescence and high-quality image data. The disclosed technology also gives rise to an illumination pattern that allows a user to create different oblique or structured illumination profiles within a static system. With the disclosed approach, a user can illuminate a sample from a first direction (e.g., with laser illumination configured to give rise to one or more of fluorescence information and scattering information), collect scattering information from a second direction, collect fluorescence information from a third direction, and capture an image of the sample from a fourth direction. (Two or more of the foregoing can be accomplished simultaneously.) Also as described elsewhere herein, an illumination used to illuminate the sample for visual image capture can be communicated to the same through a lens that also collects fluorescence from the sample.

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