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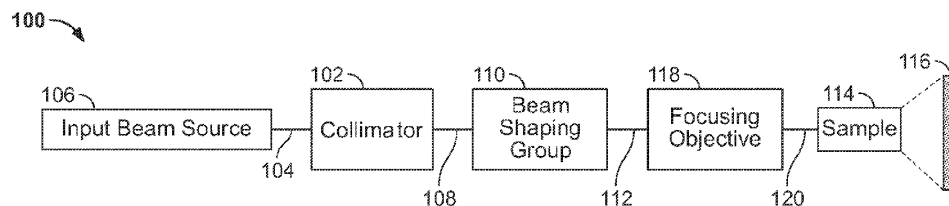


FIG. 1

(57) Abstract: Apparatus and methods for transmitting light are disclosed. In an implementation, an apparatus includes a collimator at an input end positioned to receive an input beam from a fiber beam source and to produce a collimated beam. The apparatus further includes a beam shaping group having one or more optical elements and positioned to receive the collimated beam from the collimator and format the collimated beam into a shaped propagation beam having a substantially rectangular cross-section in a far field. The apparatus further includes an objective stage for optically probing a sample, such as a flow cell, using substantially rectangular cross-section sampling beam, where fluorescence from the sample is captured by a line sensor for detecting properties of the sample, such as chemical reactions therein.

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