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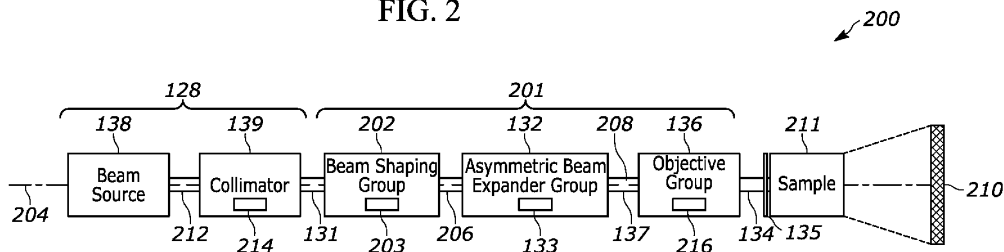
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(54) Title: IMAGING SYSTEMS AND RELATED METHODS

FIG. 2



(57) Abstract: Imaging systems and related methods are disclosed. In accordance with an implementation, a system includes a flow cell receptacle to receive a flow cell that receives a sample and an imaging system having a light source assembly, and an imaging device. The light source assembly to form a substantially collimated beam. The optical assembly including an asymmetric beam expander group that includes one or more asymmetric elements or anamorphic elements disposed along an optical axis. The optical assembly to receive the substantially collimated beam from the light source assembly, and transform the substantially collimated beam into a shaped sampling beam having an elongated cross section in a far field at or near a focal plane of the optical assembly to optically probe the sample. The imaging device to obtain image data associated with the sample in response to the optical probing of the sample with the sampling beam.

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