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(54) Title: APPARATUS AND METHODS FOR CONTROLLING HEATING OF AN OBJECTIVE IN A LINESCANNING SEQUENCING SYSTEM TO IMPROVE RESOLUTION

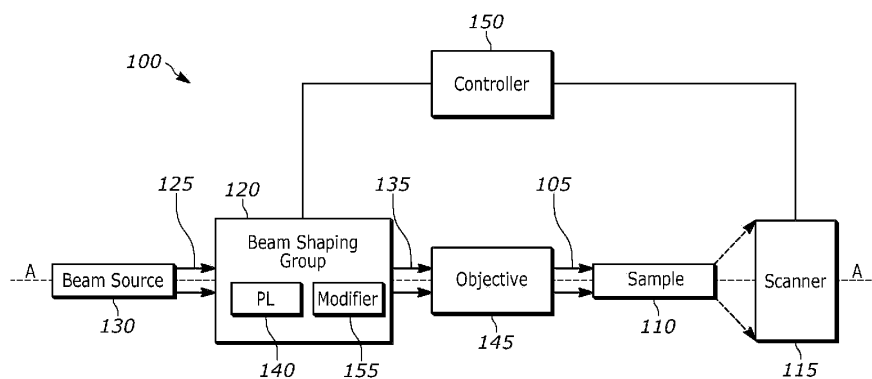


FIG. 1

(57) Abstract: Apparatus and methods for controlling heating of an objective in a linescanning sequencing system to improve resolution are disclosed. In accordance with a first implementation, an apparatus includes or comprises a beam source for providing input radiation and a beam shaping group including or comprising one or more optical elements positioned to receive the input radiation from the beam source, and to perform beam shaping on the input radiation to form a shaped beam. The apparatus further including or comprising an objective positioned to receive the shaped beam and to transform the shaped beam into a probe beam and configured to provide the probe beam to a focal plane of the objective for optically probing a sample. The beam shaping group is configured to adjust one or more properties of the shaped beam over time to generally uniformly heat the objective over a region of incidence for the shaped beam.

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