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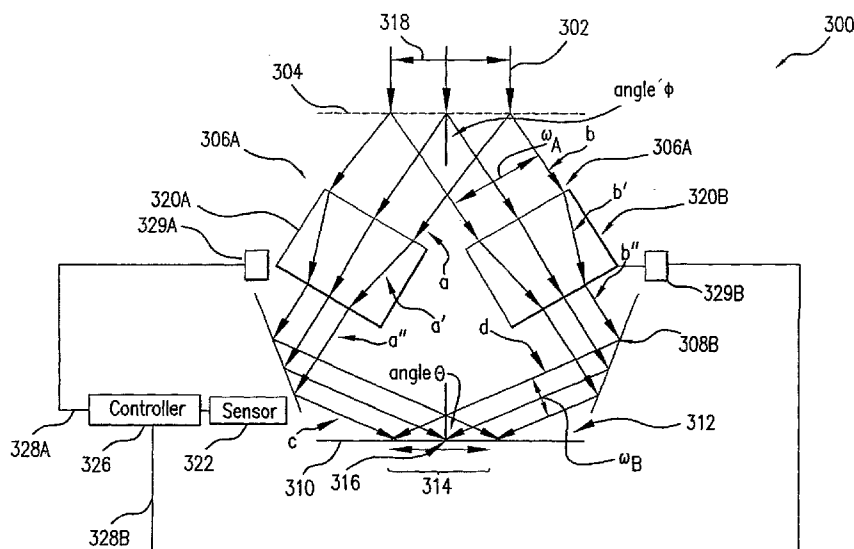
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(54) Title: INTERFEROMETRIC LITHOGRAPHY SYSTEM AND METHOD USED TO GENERATE EQUAL PATH LENGTHS OF INTERFERING BEAMS



(57) Abstract: A system and method are provided for writing patterns onto substrates. First and second beams are directed to converge and substantially overlap in a common region on a substrate. This can be done so that the first and second beams are mutually temporally coherent and spatially coherent in the region of overlap to form interference fringes to define a writing image. A beam width of the first and second beams is adjusted. This can be done so that respective path lengths of the beams are matched when they reach the common region to ensure the first and second beams are mutually spatially coherent and temporally coherent across an entire width of the common region. In one example, the substrate is moved with respect to the writing image, while writing patterns onto the substrate. In another example, the substrate remains stationary.

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