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(54) Title: TWO PIECE MIRROR ARRANGEMENT FOR INTERFEROMETRICALLY CONTROLLED STAGE		
(57) Abstract		
Two axes laser interferometers are well known for determining the XY position of a stage, for instance for photolithography equipment. Each of the X and Y coordinates is measured to great precision by reflecting a laser beam from a long flat mirrored surface lying perpendicular to the axis of interest. Instead of using a single one-piece mirror having two reflective surfaces, three mirrors are provided in the configuration of two independent rigid bodies; there are two extended main mirrors each of which is formed on a separate optical element and a third smaller calibration mirror which is fabricated at a right angle at the end surface of one of the long mirrors or is adhesively bonded or held mechanically thereto. The angular relationship between the calibration mirror and the mirror to which it is attached is rigid and the orthogonality error is calibrated and recorded. This calibration mirror is a reference surface for the second elongated mirror to which it is nominally parallel. By use of the interferometer in a calibration mode, it can be determined if the calibration mirror is parallel or not to the nominally parallel main mirror and thus it can be determined if the two main mirrors are exactly orthogonal, and to the extent they depart therefrom a calibration correction can be made. This insures accurate measurement of the XY position of the stage.		