

ABSTRACT

OPTICAL DISTORTION CORRECTION FOR IMAGED SAMPLES

Techniques are described for dynamically correcting image distortion during imaging of a patterned sample having repeating spots. Different sets of image distortion correction coefficients may be calculated for different regions of a sample during a first imaging cycle of a multicycle imaging run and subsequently applied in real time to image data generated during subsequent cycles. In one implementation, image distortion correction coefficients may be calculated for an image of a patterned sample having repeated spots by: estimating an affine transform of the image; sharpening the image; and iteratively searching for an optimal set of distortion correction coefficients for the sharpened image, where iteratively searching for the optimal set of distortion correction coefficients for the sharpened image includes calculating a mean chastity for spot locations in the image, and where the estimated affine transform is applied during each iteration of the search.

[Figure 2A]