

ABSTRACT

A method for decomposing a target pattern containing features to be printed on a wafer. The method includes the steps of: (a) defining a kernel representing a function having positive values within an inner radius and negative values in an outer radius; (b) defining the features utilizing a plurality of pixels; (c) disposing the kernel over a first pixel of the plurality of pixels; (d) determining the value of the kernel at location of each of the plurality of pixels, storing the value for each of the plurality of pixels so as to define a pixel value for each of the plurality of pixels; (e) adding a previously stored value associated with a given pixel of the plurality of pixels with the pixel value of the given pixel determined in step (d); (f) disposing the kernel over another pixel of the plurality of pixels, and repeating steps (d)-(f) until each of the plurality of pixels has been processed; and (g) determining placement of the pixel in a first pattern or a second pattern based on the pixel value of the given pixel.