ABSTRACT

ANALYZING AND UTILIZING LANDSCAPES

Methods are provided of deriving a partially continuous dependency of metrology metric(s) on recipe parameter(s), analyzing the derived dependency, determining a metrology recipe according to the analysis, and conducting metrology measurement(s) according to the determined recipe. The dependency may be analyzed in form of a landscape such as a sensitivity landscape in which regions of low sensitivity and/or points or contours of low or zero inaccuracy are detected, analytically, numerically or experimentally, and used to configure parameters of measurement, hardware and targets to achieve high measurement accuracy. Process variation is analyzed in terms of its effects on the sensitivity landscape, and these effects are used to characterize the process variation further, to optimize the measurements and make the metrology both more robust to inaccuracy sources and more flexible with respect to different targets on the wafer and available measurement conditions.

FIGURE 4