

ABSTRACT

METHOD AND APPARATUS FOR PERFORMING DARK FIELD DOUBLE DIPOLE LITHOGRAPHY (DDL)

A method of generating complementary masks for use in a dark field double dipole imaging process. The method includes the steps of identifying a target pattern having a plurality of features, including horizontal and vertical features; generating a horizontal mask based on the target pattern, where the horizontal mask includes low contrast vertical features. The generation of the horizontal mask includes the steps of optimizing the bias of the low contrast vertical features contained in the horizontal mask; and applying scatter bars to the horizontal mask. The method further includes generating a vertical mask based on the target pattern, where the vertical mask contains low contrast horizontal features. The generation of the vertical mask includes the steps of optimizing the bias of low contrast horizontal features contained in the vertical mask; and applying scatter bars to the vertical mask.