ALIGNMENT METHOD AND APPARATUS FOR ALIGNING CUTTING BLADE

ABSTRACT OF THE DISCLOSURE

Alignment method and apparatus for aligning a cutting blade with a selected street on a semiconductor wafer. It has square chip areas defined by crossing streets and alignment spots formed on its surface. Two street lines with at least one street intervening therebetween are selected, and linear functions $f(x)$ and $g(x)$ are determined on the basis of the coordinates of their alignment spots according to the least squares method. The linear functions $f(x)$ and $g(x)$ run among the alignment spots at the closest distances thereto to represent the two selected streets. Another linear functions $f'(x)$ and $g'(x)$ are determined by putting the linear functions $f(x)$ and $g(x)$ into parallelism with the X-axis. The angular difference and the distance between the two selected streets from the linear functions $f'(x)$ and $g'(x)$, and the angular difference and inter-distance are divided by the number of street-to-street spaces between the two selected streets to provide the angle of correction and the indexing amount per street. Beginning with the street adjacent to one of the two selected streets the cutting blade is aligned sequentially with the subsequent intervening streets.

Figure 5