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(54) Title: DETECTION METHOD AND APPARATUS FOR EDGE DEFECT OF SILICON WAFER, PROCESSING METHOD, AND PRODUCT

(54) 发明名称: 硅晶圆的边缘缺陷的检测方法及装置、处理方法、产品

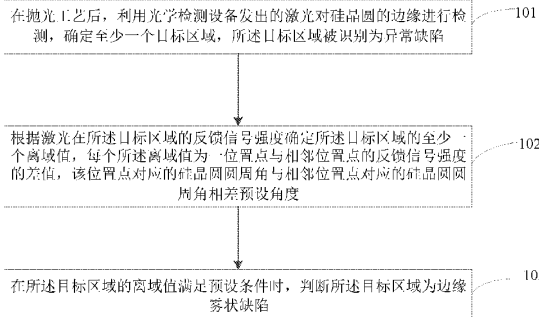


图 6

101 After a polishing process, use laser emitted by an optical detection device to detect the edge of a silicon wafer, and determine at least one target region, the target region being identified as an abnormal defect

102 Determine at least one delocalization value of the target region on the basis of the feedback signal intensity of the laser in the target region, wherein each delocalization value is the difference value between the feedback signal intensity of a position point and the feedback signal intensity of an adjacent position point, and the silicon wafer circumferential angle corresponding to the position point differs from the silicon wafer circumferential angle corresponding to the adjacent position point by a preset angle

103 When the delocalization value of the target region satisfies a preset condition, determine that the target region is an edge haze defect

(57) Abstract: The present application relates to the technical field of semiconductor manufacturing, and provides a detection method and apparatus for an edge defect of a silicon wafer, a processing method, and a product. The detection method for an edge defect of a silicon wafer comprises: after a polishing process, using laser emitted by an optical detection device to detect the edge of a silicon wafer, and determining at least one target region, the target region being identified as an abnormal defect; determining at least one delocalization value of the target region on the basis of the feedback signal intensity of the laser in the target region, wherein each delocalization value is the difference value between the feedback signal intensity of a position point and the feedback signal intensity of an adjacent position point, and the silicon wafer circumferential angle corresponding to the position point differs from the silicon wafer circumferential angle corresponding to the adjacent position point by a preset angle; and when the delocalization value of the target region satisfies a preset condition, determining that the target region is an edge haze defect.

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本国际公布：
— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本申请提供了一种硅晶圆的边缘缺陷的检测方法及装置、处理方法、产品, 属于半导体制造技术领域。硅晶圆的边缘缺陷的检测方法, 包括: 在抛光工艺后, 利用光学检测设备发出的激光对硅晶圆的边缘进行检测, 确定至少一个目标区域, 所述目标区域被识别为异常缺陷; 根据激光在所述目标区域的反馈信号强度确定所述目标区域的至少一个离域值, 每个所述离域值为一位置点与相邻位置点的反馈信号强度的差值, 该位置点对应的硅晶圆圆周角与相邻位置点对应的硅晶圆圆周角相差预设角度; 在所述目标区域的离域值满足预设条件时, 判断所述目标区域为边缘雾状缺陷。