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CHARACTERIZATION OF POLISHED SILICON WAFER

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A PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF TECHNOLOGY(MATERIAL SCIENCE) AT THE INSTITUTE OF POSTGRADUATE STUDIES AND RESEARCH
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ABSTRACT

The quality of polished silicon wafer in terms of flatness, sub-surface damages, lifetime of minority carriers and micro-roughness are part of the key parameters in characterization used in the wafer manufacturing industry today. Prior to polishing, wafers were usually etched to minimize mechanical damages from earlier processes such as slicing and lapping. Two etching methods namely 'Concave' and 'Convex' etching were compared. Their effects on the quality parameters of the wafers as described above were determined through flatness measurement using microscanning, subsurface measurement using OSDA and minority lifetime measurement using ELYMAT. Determination of particles and microroughness on the wafer surface using laser scattering measurement will also be studied.

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