Behavior of Gaussian Profile Filters for Plateau Surface Structure, and Optimum Parameters.

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Background

Automobiles are required to improve the fuel economy and performance.

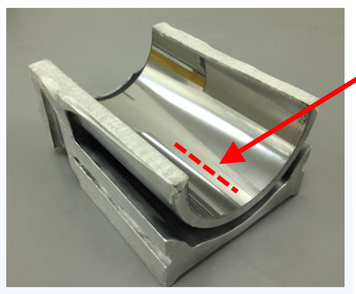
To achieve this requirement, the inner surface of engine parts has a plateau structure.

For highly valid roughness evaluation of the plateau surface, filtering method is important.

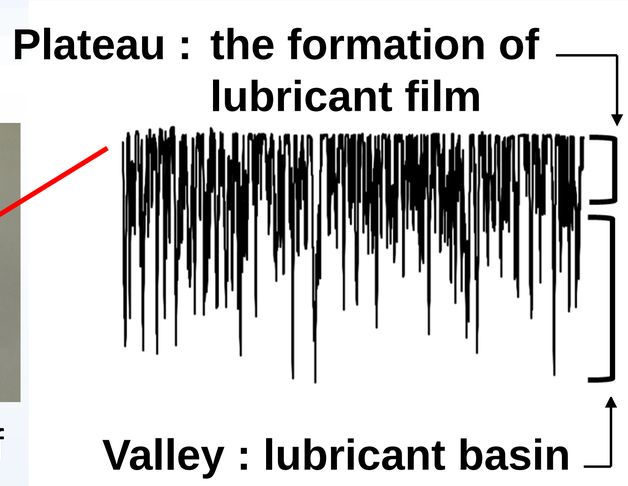
However, the output of ISO 16610-31 is distorted, which prevents accurate evaluation.

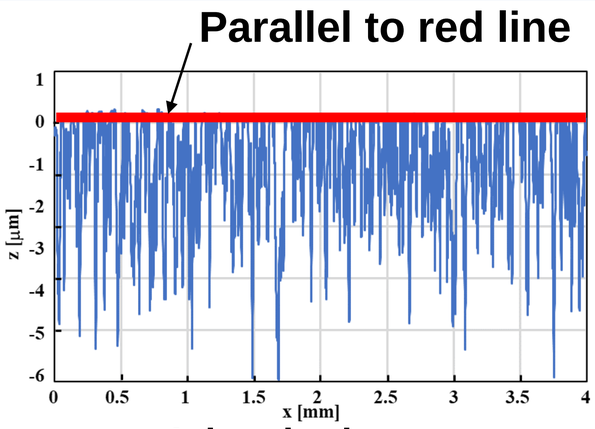
In this study, we investigate the behavior of the filter for the plateau surface to improve production efficiency in automotive measurement sites.

Plateau surface and ISO 16610-31

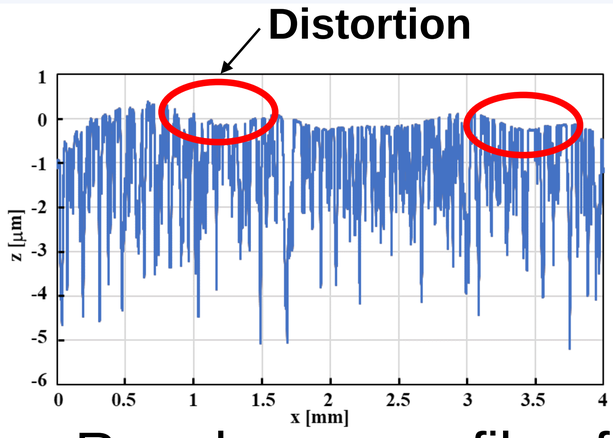


The Surfaces of automotive parts





Ideal shape



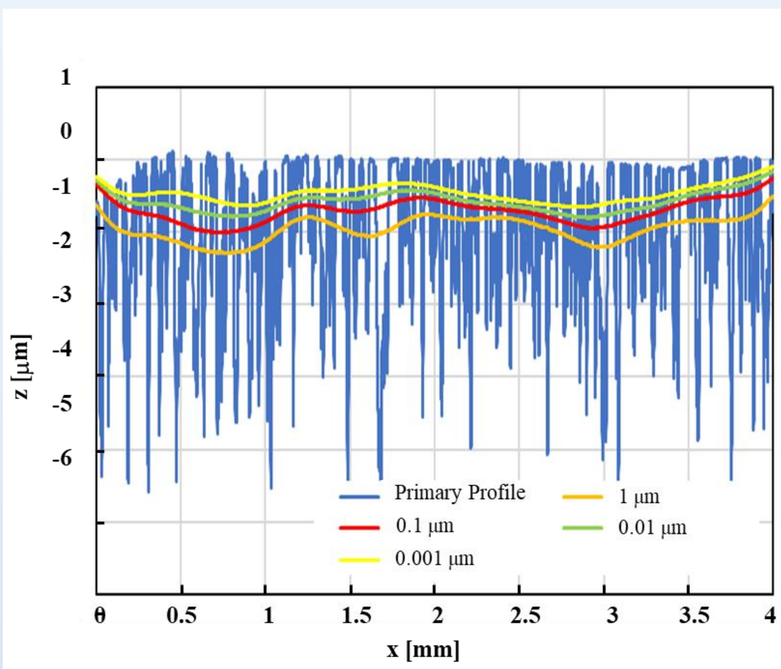
Roughness profile of ISO 16610-31

Current approach

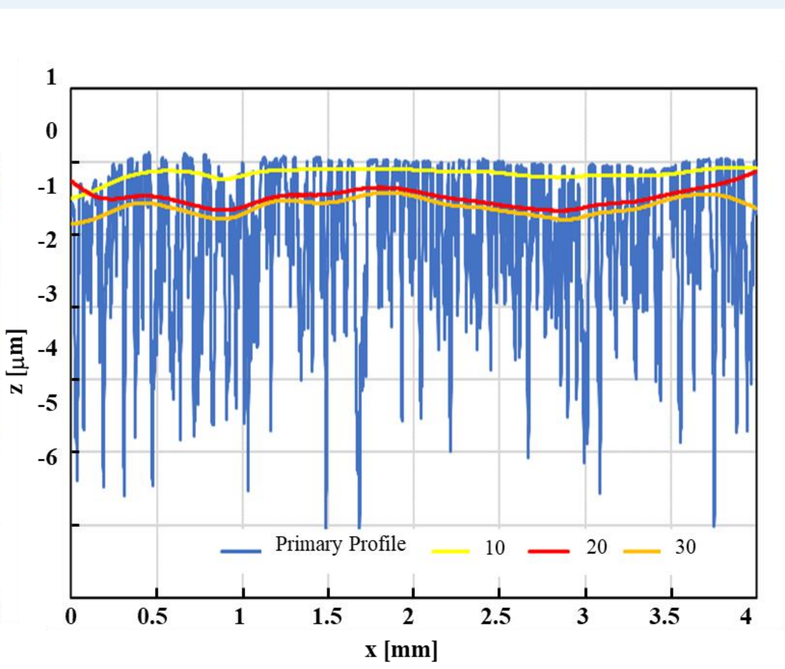
Behavior of Gaussian profile filters for plateau surface structure, and optimum parameters.

Establishment of filtering methods for plateau surfaces.

Contributing to improve production efficiency in measurement sites.



Output of GRF at each threshold



Output of FMGF at each basic width

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