

Study on surface roughness evaluation method of inner surface of engine bore by RANSAC method and least squares method

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Background

Searching for a simple method to evaluate the inner surface of engine bores.

In the previous study, several evaluation methods were proposed. One of them is a method based on the concept of RANSAC, which has excellent evaluation accuracy.

However,

Because of the need for detailed condition setting Evaluation takes time and reduces productivity.



Inner surface of engine bore

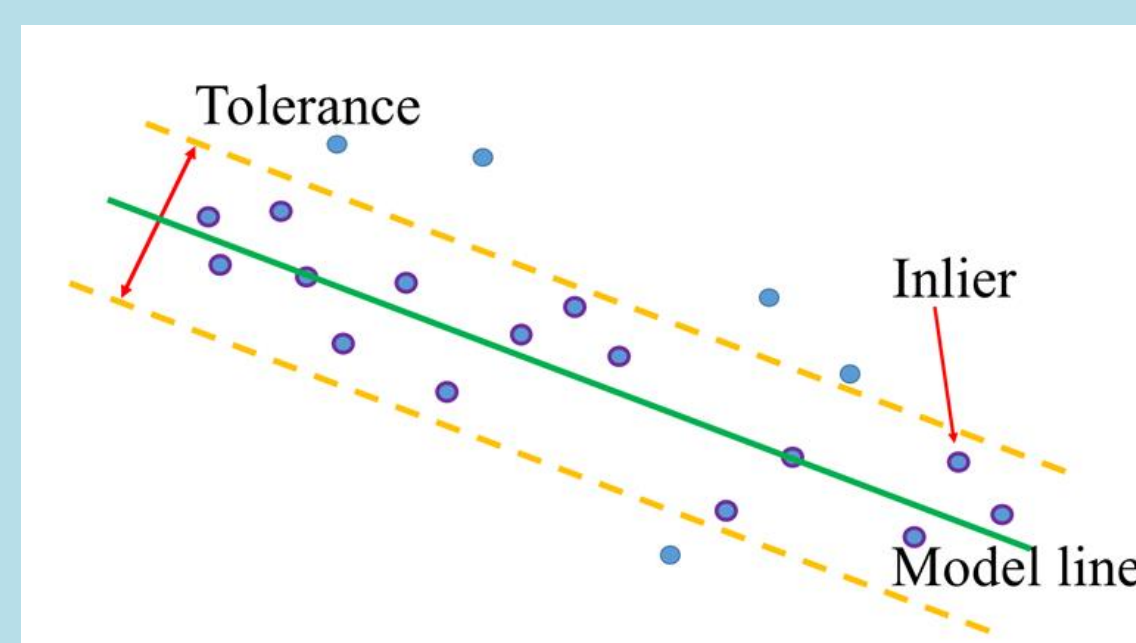


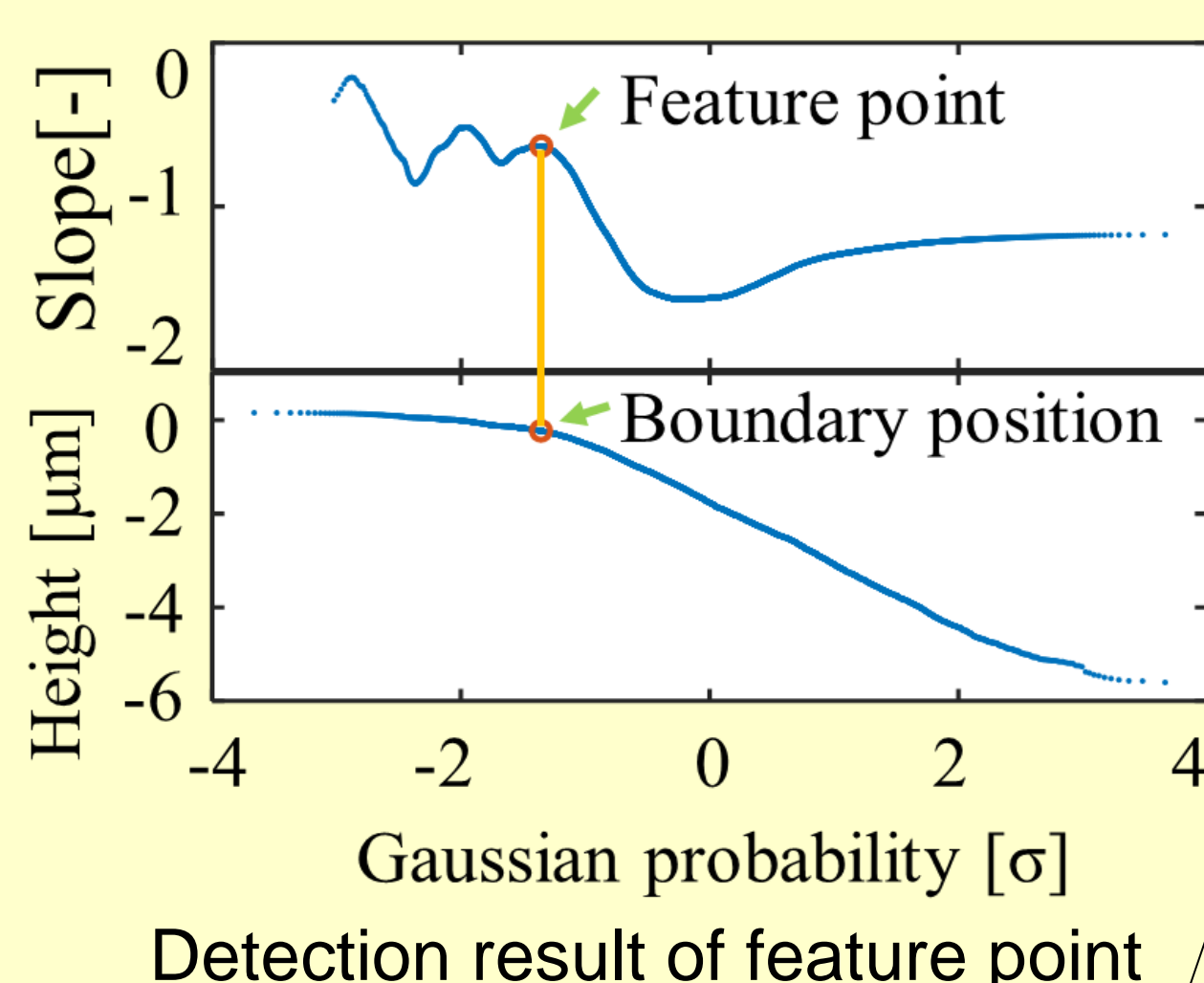
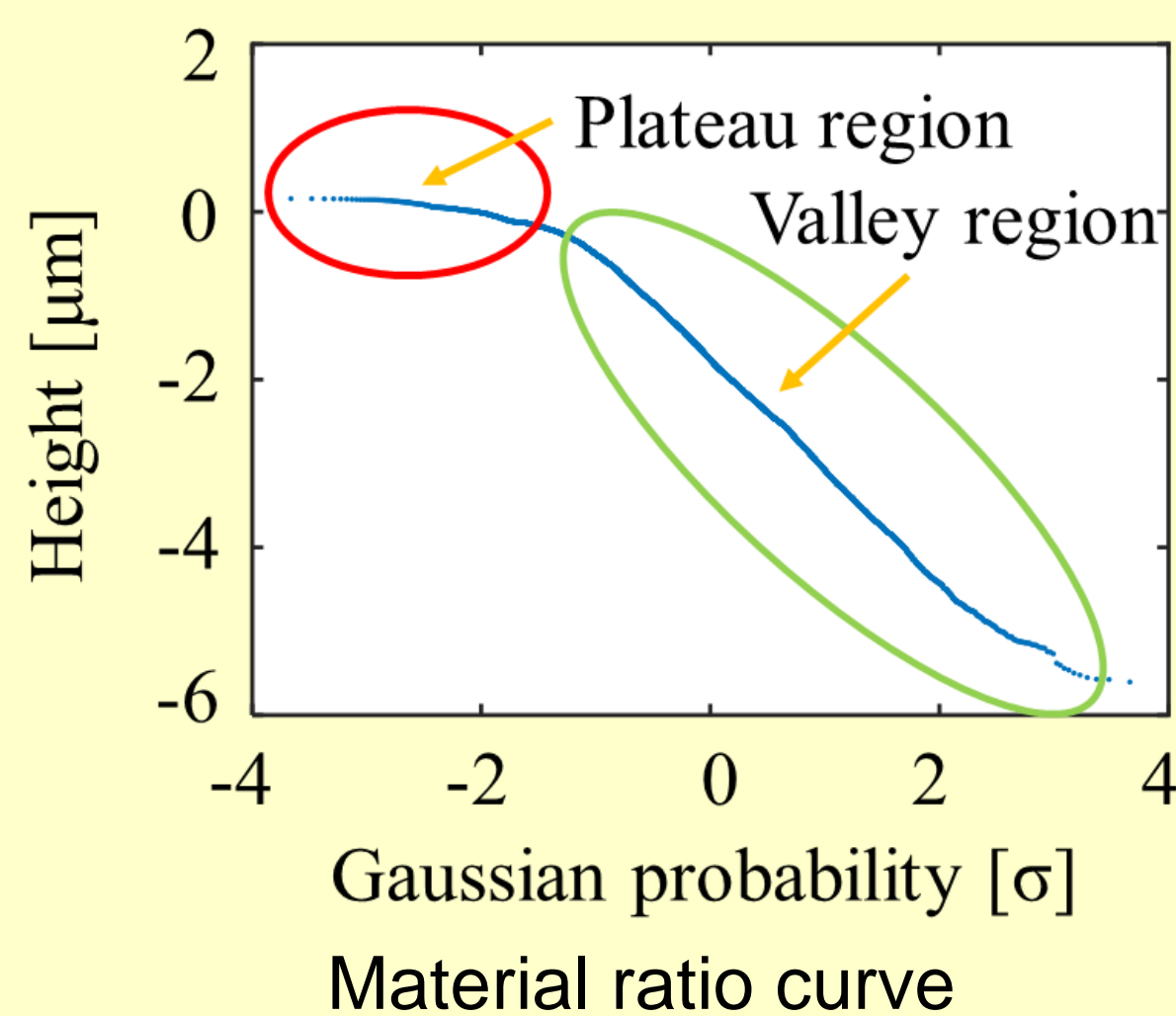
Image of RANSAC

Purpose

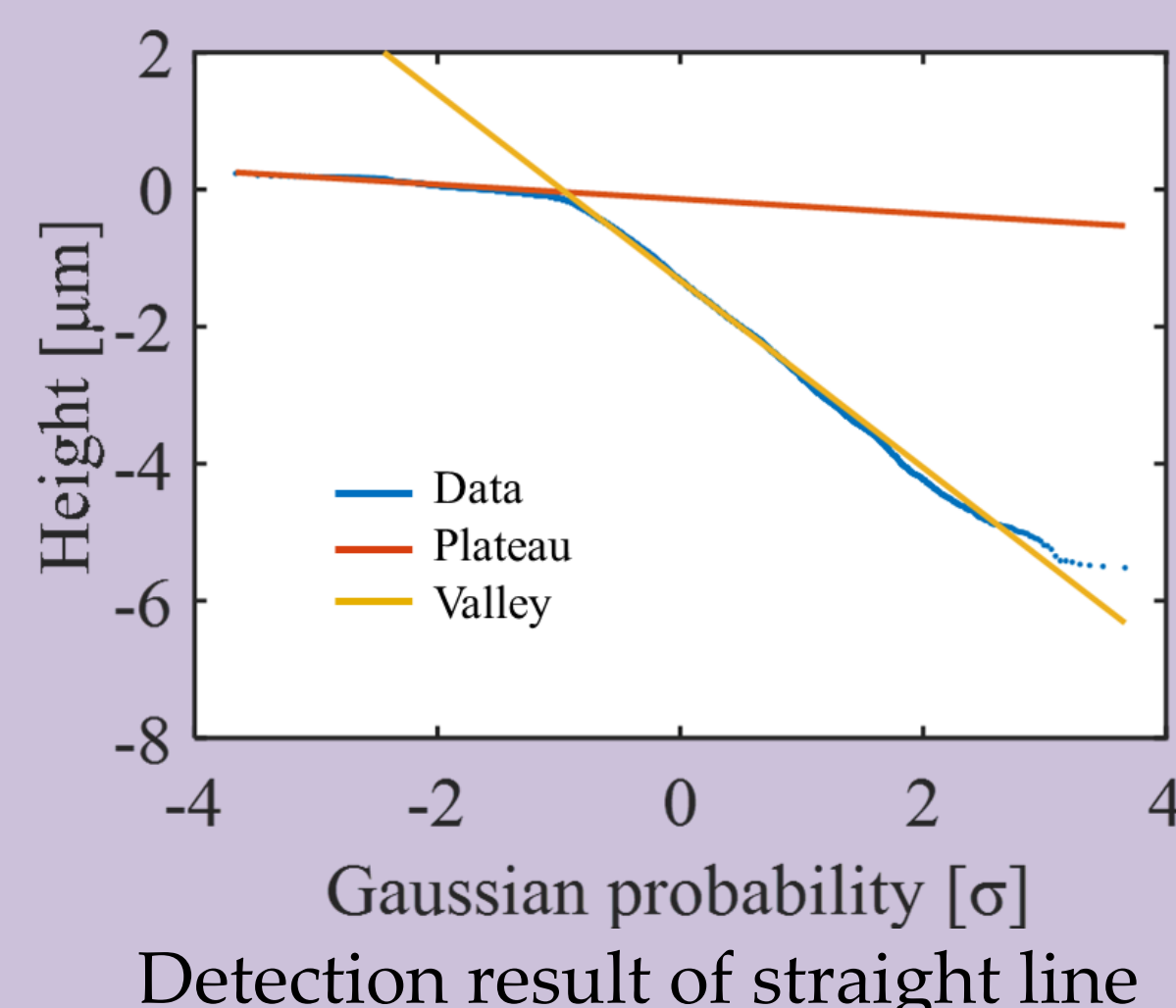
Development and improvement in efficiency of new algorithms that do not require human intervention.

The improvement of productivity at production sites.

Method



Result



Adaptation of a new method based on the concept of RANSAC

Conclusion

We developed an algorithm to identify these conditions, because this method requires the setting of three conditions. However, the developed algorithm for identifying the boundary position has a problem that it is not fully automated. In the future, we aim to develop a new method to solve this problem.