



# 単位空間のメンバーが1つの場合の 転写性評価による印鑑画像の識別

## *Simple Identification of Seal Impressions by Transferability Evaluation with Single Unit Space*

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One of the purposes for which the MT system is used is identification. Usually identification is performed by judging from distances that indicate degrees of abnormality. As similarity can be considered as a degree of transferability of the true value and original information to the object, it was considered that transferability could be evaluated by using the concept of the S/N ratio of transferability. In the MT system, distances are obtained from matrix calculations that require more data than the number of items. This has been an obstacle in dealing with huge amounts of data, and attempts have been made to reduce the quantity of unit space data. To examine an application of the S/N ratio of transferability to the MT system and unit space data reduction, identification of seal impressions was chosen as an application of transferability evaluation and seal impression matching was evaluated by use of the standardized S/N ratio. The results show that seal impressions can be identified from the standardized S/N ratio value.

**Key words** : Mahalanobis-Taguchi (MT) system, Recognition-Taguchi (RT) method, transferability, seal, standardized S/N ratio, identification, distinction, S/N ratio, quality engineering, Taguchi methods

### 1. はじめに

ある対象を識別する際、何らかの基準を置いてそれとの比較を行うという手順がとられるが、基準ま

たは手がかりとなるものがただ1つしかない事象が起こりうる例がある。たとえば係累をたどる上での残っている1枚の写真とか、犯行現場から採取された指紋や、また銀行における届出印の印影などがそのようなケースに該当する。写真などは画像の質により状況が異なるため、この仮定は一義的に決まらないが、いずれも1枚の画像が基準となり、たとえば印鑑などは1基準1信号という対応関係で比較さ

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