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Robust Metric based Anomaly Detection in Kernel Feature Space

B. Du^{1,2}, L. Zhang², and H. Xin²

¹School of Computer Science, Wuhan University, China

²The State Key Laboratory of Information Engineering in Surveying, Mapping, and Remote Sensing Wuhan University, P.R. China

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Abstract. This thesis analyzes the anomalous measurement metric in high dimension feature space, where it is supposed the Gaussian assumption for state-of-art Mahalanobis algorithms is reasonable. The realization of the detector in high dimension feature space is by kernel trick. Besides, the masking and swamping effect is further inhibited by an iterative approach in the feature space. The proposed robust metric based anomaly detection presents promising performance in hyperspectral remote sensing images: the separability between anomalies and background is enlarged; background statistics is more concentrated, and immune to the contamination by anomalies.

[Conference Paper](#) (PDF, 599 KB)

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