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**Mean translation of GLCM texture features for across-date settlement type
classification of quickbird images**

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ABSTRACT

Classifier-generic domain adaptation based on feature space matching is applied in this study, with the aim of correcting dataset shifts consisting of both covariate and concept shifts. The feature space transformation between training and test samples is estimated as a set of partition translations, where each transformed partition mean coincides with the mean of a paired target partition. Various feasible instantiations of the generalized transformation estimate are used to characterize the spatial and temporal feature variance present in a settlement classification problem using panchromatic across-area and across-date high resolution QuickBird imagery. A numerical analysis indicates that a significant settlement classification accuracy improvement is possible with the application of feature space matching, where texture features are used to describe settlement characteristics.