HIGH RESOLUTION IMAGERY RETRIEVAL
ON THE BASIS OF SKETCH-MODELLING

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ABSTRACT:

Recent technological advances have made it possible to process and store large amounts of image data. The most impressive example is the accumulation of image data in scientific applications such as satellite imagery. However, in order to realize their full potential, tools for efficient extraction of information and for intelligent search in image data bases need to be developed. The paper describes a new approach to image data retrieval that allows queries to be composed of textured patterns. The textured pattern is converted into a feature representation of reduced dimensionality which can be used for searching similar-looking patterns in the database. This representation is obtained by the texture sketch model based on Gibbs random field approach for high resolution satellite imagery. Experimental results are presented, which illustrate that the proposed representation preserves the perceptual similarities, and provides an effective tool for content-based satellite image retrieval. As well visual and manual imageinterpretations produce similar outlines of geographical units.

TOPIC: Land cover classification
ALTERNATIVE TOPIC: Land cover classification