remote sensing

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Special Issue Reprint

Remote Sensing Data Compression

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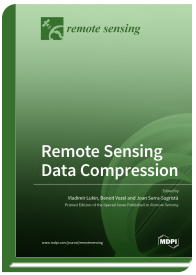

A huge amount of data is acquired nowadays by different remote sensing systems installed on satellites, aircrafts, and UAV. The acquired data then have to be transferred to image processing centres, stored and/or delivered to customers. In restricted scenarios, data compression is strongly desired or necessary. A wide diversity of coding methods can be used, depending on the requirements and their priority. In addition, the types and properties of images differ a lot, thus, practical implementation aspects have to be taken into account. The Special Issue paper collection taken as basis of this book touches on all of the aforementioned items to some degree, giving the reader an opportunity to learn about recent developments and research directions in the field of image compression. In particular, lossless and near-lossless compression of multi- and hyperspectral images still remains current, since such images constitute data arrays that are of extremely large size with rich information that can be retrieved from them for various applications. Another important aspect is the impact of lossless compression on image classification and segmentation, where a reasonable compromise between the characteristics of compression and the final tasks of data processing has to be achieved. The problems of data transition from UAV-based acquisition platforms, as well as the use of FPGA and neural networks, have become very important. Finally, attempts to apply compressive sensing approaches in remote sensing image processing with positive outcomes are observed. We hope that readers will find our book useful and interesting

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