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BS ISO 18381:2013



BSI Standards Publication

Space data and information transfer systems — Lossless multispectral and hyperspectral image compression

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This British Standard is the UK implementation of ISO 18381:2013.

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A list of organizations represented on this committee can be obtained on request to its secretary.

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Space data and information transfer systems — Lossless multispectral and hyperspectral image compression

*Systèmes de transfert des informations et données spatiales —
Compression d'images multispectrales et hyperspectrales sans perte*



Reference number
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Foreword

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ISO 18381 was prepared by the Consultative Committee for Space Data Systems (CCSDS) (as CCSDS 123-0-B-1, May 2012) and was adopted (without modifications except those stated in Clause 2 of this International Standard) by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 13, *Space data and information transfer systems*.

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1 Scope

This International Standard establishes a data compression algorithm applied to digital three-dimensional image data from payload instruments, such as multispectral and hyperspectral imagers, and specifies the compressed data format.

Data compression is used to reduce the volume of digital data to achieve benefits in areas including, but not limited to:

- a) reduction of transmission channel bandwidth;
- b) reduction of the buffering and storage requirement;
- c) reduction of data-transmission time at a given rate.

The characteristics of instrument data are specified only to the extent necessary to ensure multi-mission support capabilities. This International Standard does not attempt to quantify the relative bandwidth reduction, the merits of the approaches discussed, or the design requirements for encoders and associated decoders.

This International Standard addresses only lossless compression of three-dimensional data, where the requirement is for a data-rate reduction constrained to allow no distortion to be added in the data compression/decompression process.

The scope and field of application are furthermore detailed in subclause 1.3 of the enclosed CCSDS publication.

2 Requirements

Requirements are the technical recommendations made in the following publication (reproduced on the following pages), which is adopted as an International Standard:

CCSDS 123.0-B-1, May 2012, Lossless multispectral and hyperspectral image compression.

For the purposes of international standardization, the modifications outlined below shall apply to the specific clauses and paragraphs of publication CCSDS 123.0-B-1.

Pages i to vi

This part is information which is relevant to the CCSDS publication only.

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Add the following information to the reference indicated:

- [1] Document CCSDS 121.0-B-2, May 2012, is equivalent to ISO 15887:2013.