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Title: New Techniques for lossy multi/hyperspectral compression for very high data rate instruments

Abstract: Next-generation high-resolution super-spectral land optical imagery will require ad-hoc multi/hyperspectral lossy compression. The actual techniques (based on transforms) are very efficient in terms of compression, but quite demanding in terms of computing resource. New techniques based on predictors are very promising in terms of robustness and lower complexity. The new technique shall be efficient and not complex, in order to be implemented on-board in a real time context. In order to prove this, the algorithm have been implemented in a flight-representative HW. The developed algorithm proved to be very successful, and the user community showed an high interest on the achieved performances. Some achievements, among others: submitted for standardisation to CCSDS, baseline for PRISMA ASI mission and also for MicrOmega instrument on the EXOMARS Rover.