

LISTE DES PUBLICATIONS DU GROUPE DE MISSION SCIENTIFIQUE HYPXIM 2007-2014

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Liste non exhaustive d'articles ou de chapitres d'ouvrages publiés par les membres du groupe de mission scientifique HYPXIM (caractères gras) ou les chercheurs français travaillant dans le domaine de la télédétection hyperspectrale. Six thèmes scientifiques — géosciences & planétologie [GEOS], végétation [VEG], écosystèmes urbains [URB], milieux littoraux et côtiers [LIT], atmosphère [ATM] et cryosphère [CRYO] — et deux activités transverses — traitement du signal et de l'image [TSI] et calibration / validation [CAL] — ont été identifiés.

PUBLICATIONS 2014

1. [VEG] Baldeck C.A., Colgan M.S., Féret J.B., Levicx S.R., Martin R.E., Asner G.P. (2014), Landscape-scale variation in plant community composition of an African savanna from airborne species mapping, *Ecological Applications*, 24(1):84–93.
2. [VEG] Cheng T., Rivard B., Sánchez-Azofeifa A., Féret J.B., Jacquemoud S., Ustin S.L. (2014), Deriving leaf mass per area (LMA) from foliar reflectance across a variety of plant species using continuous wavelet analysis, *ISPRS Journal of Photogrammetry and Remote Sensing*, 87:28–38.
3. [VEG] Féret J.B., Asner G.P. (2014), Mapping tropical forest canopy diversity using high-fidelity imaging spectroscopy, *Ecological Applications*, sous presse.
4. [GEOS] Goge F., Gomez C., Jolivet C., Joffre R. (2014), Which strategy is best to predict soil properties of a local site from a national Vis-NIR database?, *Geoderma*, 213:1–9.
5. [GEOS] Gurgurewic J., Mege D., Carrère V., Cornen G., Gaudin A., Kostylew J., Morizet Y., Purcell P.G., Le Diet L. (2013), Inferring alteration conditions on Mars: insights from near-infrared spectra of basalts altered in terrestrial cold and hot environments, *IEEE Transactions on Geoscience and Remote Sensing*, soumis.
6. [LIT] Jesus B., Rosa P., Mouget J.L., Meleder V., Launeau P., Barille L. (2014), Spectral-radiometric analysis of taxonomically mixed microphytobenthic biofilms, *Remote Sensing of Environment*, 140:196-205.
7. [URB] Masson V., Marchadier C., Adolphe L., Aguejidad R., Avner P., Bonhomme M., Bretagne G., Briottet X., Bueno B., De Munck C., Doukari O., Hallegatte S., Hidalgo J., Houet T., Lemonsu A., Long N., Moine M.P., Morel T., Nolorgues L., Pigeon G., Salagnac J.L., Viguié V., Zibouche K. (2014), Adapting cities to climate change: a systemic modelling approach, *Urban Climate*, soumis.
8. [URB] Meganem I., Deville Y., Briottet X., Deliot P. (2014), Linear-quadratic blind source separation using NMF to unmix urban hyperspectral images, *IEEE Transactions on Signal Processing*, sous presse.
9. [LIT] Minghelli-Roman A., Dupouy C. (2014), Correction of the water column attenuation. Application to the seabed mapping of the lagoon of New Caledonia using MERIS images, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, sous presse.
10. [GEOS] Riaza A., Carrère V. (2014), Monitoring acidic water in a polluted river with hyperspectral remote sensing (HyMap), *Hydrological Sciences Journal*, sous presse.
11. [GEOS] Verpoorter C., Carrère V., Combe J.P. (2014), Visible, near-infrared spectrometry for simultaneous assessment of geophysical sediment properties (water, grain-size) using the spectral derivative – Modified Gaussian model, *Journal of Geophysical Research*, sous presse.
12. [CRYO] Wright P., Bergin M., Dibb J., Lefer B., Domine F., Carman T., Carmagnola C., Dumont M., Schaaf C., Wang Z., Courville Z. (2014), Comparing MODIS daily snow albedo to spectral albedo field measurements in Central Greenland, *Remote Sensing of Environment*, 140:118–129.
13. [TSI] Xia J., Chanussot J., Du P., He X. (2014), Rotation-based ensemble classifiers for high-dimensional data, in *Fusion in Computer Vision - Understanding Complex Visual Content* (B. Ionescu, Benois-Pineau J., Patrik T. & Quénot G., Eds), Springer, sous presse.
14. [TSI] Xia J., Du P., He X., Chanussot J. (2014), Hyperspectral remote sensing image classification based on rotation forest, *IEEE Geoscience and Remote Sensing Letters*, 11(1):239–243.
15. [TSI] Yokoya N., Chanussot J., Iwasaki A. (2014), Nonlinear unmixing of hyperspectral data using semi-nonnegative matrix factorization, *IEEE Transactions on Geoscience and Remote Sensing*, 52(2):1430–1437.

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16. [URB] Adeline K., Chen M., **Briottet X.**, Pang S.K., **Paparoditis N.** (2013), Shadow detection in very high spatial resolution aerial images: a comparative study, *ISPRS Journal of Photogrammetry and Remote Sensing*, 80:21–38.
17. [TSI] Alonso-Gonzalez A., Valero S., **Chanussot J.**, Lopez-Martinez C., Salembier Ph. (2013), Processing multidimensional SAR and hyperspectral images with Binary Partition Tree, *Proceedings of the IEEE*, 101(3):723–747.
18. [CRYO] Carmagnola C.M., Domine F., **Dumont M.**, Wright P., Strellis B., Bergin M., Dibb J., Picard G., Libois Q., Arnaud L., Morin S. (2013), Snow spectral albedo at Summit, Greenland: measurements and numerical simulations based on physical and chemical properties of the snowpack, *The Cryosphere*, 7:1139–1160.
19. [TSI] Cavalli R.M., Licciardi G., **Chanussot J.** (2013), Detection of anomalies produced by buried archeological structures using non linear principal component analysis applied to airborne hyperspectral image, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 6(2):659–669.
20. [GEOS] Chabrilat S., Ben-Dor E., ViscarraRossel R.A., Demattê J.A. (2013), Quantitative soil spectroscopy, *Applied and Environmental Soil Science*, ID 616578.
21. [URB] Chen M., Seow K.L.C., **Briottet X.**, Sze Kim Pang (2013), Efficient empirical reflectance retrieval in urban environments, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 6(3):1596–1601.
22. [ATM] Deschamps A., **Marion R.**, **Briottet X.**, **Foucher P.Y.** (2013), Simultaneous retrieval of CO₂ and aerosols in a plume from hyperspectral imagery: application to the characterization of a forest fire smoke using AVIRIS data, *International Journal of Remote Sensing*, 34(19):6837–6864.
23. [TSI] Fauvel M., **Chanussot J.**, Benediktsson J.A., Villa A. (2013), Parsimonious Mahalanobis kernel for the classification of high dimensional data, *Pattern Recognition*, 46(3):845–854.
24. [TSI] Fauvel M., Tarabalka Y., Benediktsson J.A., **Chanussot J.**, Tilton J. (2013), Advances in spectral-spatial classification of hyperspectral images, *Proceedings of the IEEE*, 101(3):652–675.
25. [VEG] Féret J.B., Asner G.P. (2013), Tree species discrimination in tropical forests using airborne imaging spectroscopy, *IEEE Transactions on Geoscience and Remote Sensing*, 51(1):73–84.
26. [GEOS] **Gomez C.**, Le Bissonnais Y., Annabi M., Bahri H., Raclot D. (2013), Laboratory Vis–NIR spectroscopy as an alternative method for estimating the soil aggregate stability indexes of Mediterranean soils, *Geoderma*, 209–210:86–97.
27. [GEOS] Lagacherie P., Sneep A.R., **Gomez C.**, Bacha S., Coulouma G., Hédi Hamrouni M., Mekki I. (2013), Combining Vis–NIR hyperspectral imagery and legacy measured soil profiles to map subsurface soil properties in a Mediterranean area (Cap-Bon, Tunisia), *Geoderma*, 209–210:168–176.
28. [CRYO] Libois Q., Picard G., France J.L., Arnaud L., **Dumont M.**, Carmagnola C.M., King M.D. (2013), Influence of grain shape on light penetration in snow, *The Cryosphere*, 7:1803–1818.
29. [TSI] Luo B., **Chanussot J.**, Douté S., Zhang L. (2013), Empirical automatic estimation of the number of endmembers in hyperspectral images, *IEEE Geoscience and Remote Sensing Letters*, 10(1):24–28.
30. [VEG] Luo B., Yang C., **Chanussot J.**, Zhang L. (2013), Crop yield estimation based on unsupervised linear unmixing of multivariate hyperspectral imagery, *IEEE Transactions on Geoscience and Remote Sensing*, 51(1):162–173.
31. [LIT] Meleder V., Laviale M., Jesus B., Mouget J.L., Lavaud J., Kazemipour F., Launeau P., Barille L. (2013), *In vivo* estimation of pigment composition and optical absorption cross-section by spectroradiometry in four aquatic photosynthetic micro-organisms, *Journal of Photochemistry and Photobiology B: Biology*, 129:115–124.
32. [URB] Meganem I., **Déliot P.**, **Briottet X.**, Deville Y., Hussein S. (2013), Linear-quadratic mixing model for reflectances in urban environments, *IEEE Transactions on Geoscience and Remote Sensing*, 52(1):544–558.
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34. [LIT] Sylla D., **Minghelli-Roman A.**, Blanc P., Mangin A., Hembise Fandon d'Andon O. (2013), Fusion of multispectral images by extension of the pan-sharpening ARSIS method, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, sous presse.
35. [VEG] Tochon G., Féret J.B., Valero S., Martin R.E., Tupayachi R., **Chanussot J.**, Salembier P., Asner G.P. (2013), Segmentation hyperspectrale de forêts tropicales par arbres de partition binaires, *Revue Française de Photogrammétrie et de Télédétection*, 202.
36. [TSI] Valero S., Salembier Ph., **Chanussot J.** (2013), Hyperspectral image representation and processing with binary partition trees, *IEEE Transactions on Image Processing*, 22(4):1430–1443.
37. [TSI] Villa A., **Chanussot J.**, Benediktsson J.A., Jutten C., Dambreville R. (2013), Unsupervised methods for the classification of hyperspectral images with low spatial resolution, *Pattern Recognition*, 46(6):1556–1568.

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39. [TSI] Bernard K., Tarabalka Y., Angulo J., **Chanussot J.**, Benediktsson J.A. (2012), Spectral-spatial classification of hyperspectral data based on a stochastic minimum spanning forest approach, *IEEE Transactions on Image Processing*, 21(4):2008–2021.
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41. [VEG] Cheng T., Rivard B., Sánchez-Azofeifa A., Féret J.B., **Jacquemoud S.**, Ustin S.L. (2012), Predicting leaf gravimetric water content from foliar reflectance across a range of plant species using continuous wavelet analysis, *Journal of Plant Physiology*, 169(12):1134–1142.
42. [VEG] Colgan M.S., Baldeck C.A., Féret J.B., Asner G.P. (2012), Mapping savanna tree species at ecosystem scales using support vector machine classification and BRDF correction on airborne hyperspectral and LiDAR data, *Remote Sensing*, 4(11):3462–3480.
43. [TSI] Cuadras C.M., Valero S., Cuadras D., Salembier Ph., **Chanussot J.** (2012), Distance-based measures of association with applications in relating hyperspectral images, *Communications in Statistics - Theory and Methods*, 41(13–14):2342–2355.
44. [VEG] Féret J.B., Asner G.P. (2012), Semi-supervised methods to identify individual crowns of lowland tropical canopy species using imaging spectroscopy and LiDAR, *Remote Sensing*, 4(8):2457–2476.
45. [GEOS] **Gomez C.**, Lagacherie P., Bacha S. (2012), Using a Vis-NIR hyperspectral image to map topsoil properties over bare soil surfaces in the Cap Bon region (Tunisia), In *Digital Soil Assessments and Beyond* (Minasny B., Malone B.P., McBratney A.B., Eds), Springer. pp 387–392.
46. [GEOS] **Gomez C.**, Lagacherie P., Coulouma G. (2012), Regional predictions of eight common soil properties and their spatial structures from hyperspectral Vis-NIR data, *Geoderma*, 189–190:176–185.
47. [LIT] Kazemipour F., Launeau P., Méléder V. (2012), Microphytobenthos biomass mapping using the optical model of diatom biofilms: application to hyperspectral images of Bourgneuf Bay, *Remote Sensing of Environment*, 127:1–13.
48. [VEG] Knyazikhin Y., Schull M.A., Stenberg P., Möttus M., Rautiainen M., Yang Y., Marshak A., Carmona P.L., Kaufmann R.K., Lewis P., Disney M.I., Vanderbilt V., Davis A.B., Baret F., **Jacquemoud S.**, Lyapustin A., Myneni R.B. (2012), Hyperspectral remote sensing of foliar nitrogen content, *Proceedings of the National Academy of Sciences*, 110(3):E185–E192.
49. [GEOS] Lagacherie P., Bailly J.S., Monestiez P., **Gomez C.** (2012), Using scattered hyperspectral imagery data to map the soil properties of a region, *European Journal of Soil Science*, 63(1):110–119.
50. [CAL] **Lefèvre-Fonollosa M.J.**, **Michel S.**, **Hosford S.** (2012), HYPXIM – An innovative spectroradiometer for science, security and defence, *Revue Française de Photogrammétrie et de Télédétection*, n°200.
51. [LIT] Lei M., **Minghelli-Roman A.**, Bricaud A., Froidefond J.M., Mathieu S., Gouton P. (2012), Simulation of future geostationary ocean color images, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 1:173–182.
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53. [GEOS] Riaza A., Buzzi J., Garcia-Melendez E., **Carrère V.**, Mueller A. (2012), Monitoring the extent of contamination from acid mine drainage in the Iberian pyrite belt (SW Spain) using hyperspectral imagery, *Remote Sensing*, 3(10):2166–2186.
54. [GEOS] Riaza A., Buzzi J., Garcia-Melendez E., **Carrère V.**, Siamiento A., Mueller A. (2012), River acid mine drainage: sediment and water mapping through hyperspectral Hymap data, *International Journal of Remote Sensing*, 33(19): 6163–6185.
55. [GEOS] Riaza A., Buzzi J., Garcia-Melendez E., Vazque I., Bellido E., **Carrère V.**, Mueller A. (2012), Pyrite mine waste and water mapping using Hymap and Hyperion hyperspectral data, *Environmental Earth Sciences*, 66(7):1957–1971.

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57. [TSI] Ceamanos X., Douté S., Luo B., Schmidt F., Jouannic G., **Chanussot J.** (2011), Intercomparison and validation of techniques for spectral unmixing of hyperspectral images: a planetary case study, *IEEE Transactions on Geoscience and Remote Sensing*, 49(11):4341–4358.
58. [TSI] Dalla Mura M., Benediktsson J.A., **Chanussot J.**, Bruzzone L. (2011), The evolution of the morphological profile: from panchromatic to hyperspectral images, in *Optical remote sensing - Advances in Signal Processing and Exploitation techniques* (S. Prasad, L.M. Bruce & J. Chanussot, Eds), Springer, Pages 123–146.
59. [TSI] Dalla Mura M., Villa A., Benediktsson J.A., **Chanussot J.**, Bruzzone L. (2011), Classification of hyperspectral images by using extended morphological attribute profiles and independent component analysis, *IEEE Geoscience and Remote Sensing Letters*, 8(3):542–546.
60. [VEG] Féret J.B., Asner G.P. (2011), Spectroscopic classification of tropical forest species using radiative transfer modeling, *Remote Sensing of Environment*, 115(9):2415–2422.
61. [VEG] Féret J.B., François C., Gitelson A.A., G.P. Asner, Barry K.M., Panigada C., Richardson A.D., **Jacquemoud S.** (2011), Optimizing spectral indices and chemometric analysis of leaf chemical properties using radiative transfer modeling, *Remote Sensing of Environment*, 115(10):2742–2750.
62. [VEG] Gerber F., **Marion R.**, Olioso A., **Jacquemoud S.**, Ribeiro da Luz B., Fabre S. (2011), Modeling directional-hemispherical reflectance and transmittance of fresh and dry leaves from 0.4 μm to 5.7 μm with the PROSPECT-VISIR model, *Remote Sensing of Environment*, 115(2):404–414.
63. [LIT] Kazemipour F., Méléder V., Launeau P. (2011), Optical properties of microphytobenthic biofilms (MPBOM): biomass retrieval implication, *Journal of Quantitative Spectroscopy and Radiative Transfer*, 112(1):131–142.
64. [TSI] Luo B., **Chanussot J.** (2011), Supervised hyperspectral image classification based on spectral unmixing and geometrical features, *Journal of Signal Processing Systems*, 65(3):457–468.
65. [LIT] **Minghelli-Roman A.**, Laugier T., Polidori L., Mathieu S., Loubersac L. (2011), Satellite survey of seasonal trophic status and occasional anoxic crises “Malaignes” in the Thau lagoon using MeRIS images, *International Journal of Remote Sensing*, 32(4):909–923.
66. [GEOS] Ouerghemmi W., **Gomez C.**, Naceur S., Lagacherie P. (2011), Applying blind source separation on hyperspectral data for clay content estimation over partially vegetated surfaces, *Geoderma*, 163(3–4):227–237.
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70. [TSI] Villa A., **Chanussot J.**, Benediktsson J.A., Jutten C. (2011), Spectral unmixing for the classification of hyperspectral images at a finer spatial resolution, *IEEE Journal of Selected Topics in Signal Processing*, 5(3):521–535.

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71. [GEOS] Baissa R., Labbassi K., Launeau P., Ouajhain B., Gaudin A. (2010), Hyperspectral analysis of Jurassic carbonates in the Moroccan Atlantic High Atlas Example of Lower Liasic formation of Arigh Ouzla (Essaouira basin), *Comptes Rendus Geoscience*, 342(12):911–920.
72. [TSI] Castaings T., Waske B., Benediktsson J.A., **Chanussot J.** (2010), On the influence of feature reduction for the classification of hyperspectral images based on the extended morphological profile, *International Journal of Remote Sensing*, 31(22):5921–5939.
73. [TSI] Ceamanos X., Waske B., Benediktsson J.A., **Chanussot J.**, Fauvel M., Sveinsson J.R. (2010), A classifier ensemble based on fusion of support vector machines for classifying hyperspectral data, *International Journal of Image and Data Fusion*, 1(4):293–307.
74. [TSI] **Chanussot J.**, Crawford M.M., Kuo B.C. (2010), Foreword to the special issue on hyperspectral image and signal processing, *IEEE Transactions on Geoscience and Remote Sensing*, 48(11):3871–3876.
75. [CRYO] **Dumont M.**, Brissaud O., Picard G., Schmitt B., Gallet J.C., Arnaud Y. (2010), High-accuracy measurement of snow Bidirectional Reflectance Distribution Function at visible and NIR wavelengths – comparison with modelling results, *Atmospheric Chemistry and Physics*, 10:2507–2520.

76. [GEOS] Kandasamy K., Minghelli-Roman A. (2010), *Optimal Bands selection for Soil Classification and Moisture Mapping: Study of feature selection algorithms with application to soil classification and estimation of soil moisture*, Lambert Academic Publishing, 80 pages.
77. [TSI] Khan M., Chanussot J. (2010), Fusion of satellite images at different resolutions, in *Multivariate image processing* (Ch. Collet, J. Chanussot & K. Chehdi, Eds), Wiley & Sons.
78. [LIT] Meleder V., Launeau P., Barille L., Combe J.P., Carrère V., Jesus B., Verpoorter C. (2010), Hyperspectral imaging for mapping microphytobenthos in coastal areas, in *Geomatic Solutions for Coastal Environments* (M. Maanan & M. Robin, Eds), Pages 71–139.
79. [VEG] Pedrós R., Goulas Y., Jacquemoud S., Louis J., Moya I. (2010), FluorMODleaf: A new leaf fluorescence emission model based on the PROSPECT model, *Remote Sensing of Environment*, 114(1):155–167.
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