

## Curriculum Vitae

# Aida Alvera Azcárate

## 1 Personal data

Born in Spain, 11 September 1977

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## 2 Academic data

- January 2012-present: Researcher at the University of Liège.
- November 2007-January 2012: Chargé de Recherches FRS-FNRS (Fonds de la Recherche Scientifique) at the University of Liège.
- October 2004-October 2007: Research Associate at the College of Marine Science, University of South Florida.
- September 2001-September 2004: PhD in Oceanography, University of Liège, Belgium. Thesis entitled: 'Forecast verification of a 3D model of the Mediterranean Sea. Analysis of model results and observations using wavelets and Empirical Orthogonal Functions'. Realized in the frame of the SOFT project (Satellite-based Ocean Forecasting system, EC EVK3-2000-000561).
- September 2000-September 2001: Master in Oceanology: "Modelling of the Marine Environment" (DEA en Modélisation de l'Environnement Marin), University of Liège (Belgium) and New University of Lisbon (Portugal). Mark: Very Good (très bien).

- Practical Work: 'Determination of Tidal Components Period in the Bahamas Sea'
  - DEA's dissertation: 'Modelling Macroalgae Productivity at a Tidal Cycle Time Scale'
- 1995-2000: MSc in Marine Sciences (University of Las Palmas de Gran Canaria, Spain). Student's record: Average mark, 2.52; last two years, 2.9 (1-Pass, 2-Notable, 3-First Class, 4-Maximum Mark). Range: third highest qualification of the year 2000 class.

### **3 Award**

- Charles Lagrange Quadrennial Price of the Belgian Academy of Sciences (2012)

### **4 Editor**

- Associate editor of Remote Sensing of Environment (2014 to present).
- Associate editor of Ocean Dynamics (2012 to present).
- Associate editor of Scientia Marina (2015 to present).
- Guest editor of the Special Issue "Multiparametric observation and analysis of the sea", Ocean Dynamics (2011).
- Guest editor of the Special Issue "Remote sensing of colour, temperature and salinity. New challenges and opportunities", Remote Sensing of Environment (vol 146, pp. 1-234, 2014).
- Guest editor of the Special Issue "ESA's Soil Moisture and Ocean Salinity Mission – Achievements and novel applications after 5 years in orbit", Remote Sensing of Environment (vol 180, pp. 1-464, 2016).

### **5 Teaching**

- Master in oceanography (University of Liège)
  - Satellite Oceanography. First year master and Erasmus Mundus MER master
  - Advanced Satellite Oceanography. Erasmus Mundus MER master
  - Coastal oceanography. First year master.
  - Data acquisition and analysis in oceanography. Second year master.
  - Documentation in oceanography -databases-. Second year master.

- Current issues in oceanography. Second year master.
- Methodological approach to oceanography practice. First year master.
- Master in Space Sciences (University of Liège)
  - Statistical methods of analysis of oceanographic data. First and second year master.
- Outreach
  - Introduction to Physical Oceanography to the winner students from the competition “Concours Corsica” organized by the University of Liège.

## 6 Organization of conferences

- Organizer of the “Ocean Remote Sensing” session at the European Geophysical Union General Assembly (since 2011).
- Scientific organizer of the 50th edition of the International Liège Colloquium: Long-term studies in oceanography – a celebration of 50 years of science at the Liege Colloquium (2018).
- Scientific organizer of the 44th edition of the International Liège Colloquium: Remote sensing of colour, temperature and salinity - new challenges and opportunities (2012), with Kevin Ruddick.
- Scientific organizer of the 42th edition of the International Liège Colloquium: Multi-parametric observation and analysis of the Sea (2010), with Pierre-Marie Poulain.
- Member of the scientific committee of several international conferences.

## 7 Service to the scientific community

### 7.1 Open Source software

Development and user support of DINEOF (Data Interpolating Empirical Orthogonal Functions), a method to reconstruct missing data information in satellite datasets <http://modb.oce.ulg.ac.be/mediawiki/index.php/DINEOF>.

## 7.2 Peer Review Referee

- Reviewer for: *Atmósfera*, *Canadian Journal of Remote Sensing*, *Climatic Change*, *Continental Shelf Research*, *Geophysical Research Letters*, *Journal of Climate*, *Journal of Geophysical Research*, *International Journal of Oceanography*, *International Journal of Remote Sensing*, *Journal of Atmospheric and Oceanic Technology*, *Journal of Oceanography*, *Ocean Dynamics*, *Ocean Modelling*, *Ocean Science*, *Remote Sensing of Environment*, *Remote Sensing Letters*, *Scientia Marina*.
- Reviewer for the National Science Foundation (NSF, USA).

## 8 Invited seminars and conferences

- Statistical methods for signal decomposition. Ocean Remote Sensing Synergy Summer school, IMT Atlantique, July 2019, Brest (France).
- Ocean reanalysis for the study of the evolution of the state of the ocean over the last decades. VI International Symposium on Marine Sciences. June 2018, Vigo (Spain).
- DINEOF seminar in the University of the Basque Country, 4-5 November 2008, Bilbao (Spain).
- Oceanography in the Cariaco Basin: study of the present to understand the past, University of the Basque Country, 5 November 2008, Bilbao (Spain).
- DINEOF seminar in the SESAME summer school “Statistical Analysis of Biological data and Times-Series”, from 21 July to 1 August 2008 in Varna (Bulgaria).

## 9 Research projects

- Coordinator
  - **3D Flow in Calvi Bay**, F.R.S.-FNRS Equipment project (2017-2018)
  - **SMOS sea surface salinity data in the Mediterranean Sea**, European Space Agency (2017)
  - **Improving Sea Surface Salinity Estimates through Multivariate and Multisensor Analyses**, European Space Agency (2014 - 2016)
  - **Evaluation of Ocean Syntheses** - EU COST Action (2014 - 2018)

- **DINEOF-on-web** - Creation of a web-based interface for DINEOF, Belgian Science Policy (2013 - 2014)
  - **BESST** - Inter-sensor Bias Estimation in Sea Surface Temperature, Belgian Science Policy (2012 - 2014)
  - **HiSea** - High resolution merged satellite Sea surface temperature fields, Belgian Science Policy (2011 - 2012)
- Principal Investigator
- **MultiSync** - Multi-Scale Synergy Products for advanced Coastal Water Quality Monitoring (2017 - 2019)
  - **GEOCOLOUR** - Preparation for Geostationary Ocean Colour, Belgian Science Policy (2011 - 2013)

## 10 Publications

- [1] T. H. N. Huynh, **A. Alvera-Azcárate**, and J.-M. Beckers. Analysis of surface chlorophyll a associated with sea surface temperature and surface wind in the South China Sea. *Ocean Dynamics*, 70:139–161, 2020.
- [2] F.J. Davidson, E. Chassignet, P.N. Vinayachandran, Y. Lu, G.C. Smith, X. Zhu, H. Wang, G. Liu, P. De Mey-Frémaux, V. Kourafalou, F. Hernandez, A. Moore, J. Siddorn, M.J. Martin, **A. Alvera-Azcárate**, and G. Brassington. Synergies in operational oceanography: The intrinsic need for sustained ocean observations. *Frontiers in Marine Science*, 6(JUL), 2019. doi: 10.3389/fmars.2019.00450.
- [3] C. Gommenginger, B. Chapron, A. Hogg, C. Buckingham, B. Fox-Kemper, L. Eriksson, F. Soulat, C. Ubelmann, F. Ocampo-Torres, B.B. Nardelli, D. Griffin, F. Lopez-Dekker, P. Knudsen, O.B. Andersen, L. Stenseng, N. Stapleton, W. Perrie, N. Violante-Carvalho, J. Schulz-Stellenfleth, D. Woolf, J. Isern-Fontanet, F. Ardhuin, P.M. Klein, A. Mouche, A. Pascual, X. Capet, D. Hauser, A. Stoffelen, R.A. Morrow, L. Aouf, Ø. Breivik, L.-L. Fu, J.A. Johannessen, Y. Aksenov, L. Brichenov, J. Hirschi, A.C. Martin, A.P. Martin, G. Nurser, J. Polton, J. Wolf, H. Johnsen, A. Soloviev, G. Jacobs, F. Collard, S.B. Groom, V. Kudryavstev, J.L. Wilkin, V. Navarro, A. Babanin, M.J. Martin, J. Siddorn, A. Saulter, T. Rippeth, W. Emery, N. Maximenko, R. Romeiser, H. Graber, **A. Alvera-Azcárate**, C. Hughes, D. Vandemark, J. da Silva, P.J. Van Leeuwen, A. Naveira-Gabarato, J. Gemmrich, A. Mahadevan, J. Marquez, Y. Munro, S. Doody, and G. Burbidge. SEASTAR: A mission to study ocean submesoscale dynamics and small-scale atmosphere-ocean processes in coastal, shelf and polar seas. *Frontiers in Marine Science*, 6(JUL), 2019. doi: 10.3389/fmars.2019.00457.

- [4] P.J. Minnett, **A. Alvera-Azcárate**, T.M. Chin, G.K. Corlett, C.L. Gentemann, I. Karagali, X. Li, A. Marsouin, S. Marullo, E. Maturi, R. Santoleri, S. Saux Picart, M. Steele, and J. Vazquez-Cuervo. Half a century of satellite remote sensing of sea-surface temperature. *Remote Sensing of Environment*, 233:111366, 2019. ISSN 0034-4257. doi: <https://doi.org/10.1016/j.rse.2019.111366>.
- [5] A. Storto, **A. Alvera-Azcárate**, M.A. Balmaseda, A. Barth, M. Chevallier, F. Counillon, C.M. Domingues, M. Dréville, Y. Drillet, G. Forget, G. Garric, K. Haines, F. Hernandez, D. Iovino, L.C. Jackson, J.-M. Lellouche, S. Masina, M. Mayer, P.R. Oke, S.G. Penny, A.K. Peterson, C. Yang, and H. Zuo. Ocean reanalyses: Recent advances and unsolved challenges. *Frontiers in Marine Science*, 6(JUL), 2019. doi: 10.3389/fmars.2019.00418.
- [6] E. Olmedo, I. Taupier-Letage, A. Turiel, and **A. Alvera-Azcárate**. Improving smos sea surface salinity in the western mediterranean sea through multivariate and multifractal analysis. *Remote Sensing*, 10(3):485, 2018.
- [7] A. Barth, S. Watelet, C. Troupin, **A. Alvera-Azcárate**, and J.-M. Beckers. *Oceanographic and Marine Cross-Domain Data Management for Sustainable Development*, chapter Analysis of Ocean in Situ Observations and Web-Based Visualization: From Individual Measurements to an Integrated View, pages 345–371. IGI Global, Hershey, PA, 2017. doi: 10.4018/978-1-5225-0700-0.ch015.
- [8] **A. Alvera-Azcárate**, A. Barth, G. Parard, and J.-M. Beckers. Analysis of SMOS sea surface salinity data using DINEOF. *Remote Sensing of Environment*, 180:137–145, 2016.
- [9] A. Barth, Y. Yan, **A. Alvera-Azcárate**, and J.-M. Beckers. Local ensemble assimilation scheme with global constraints and conservation. *Ocean Dynamics*, 66:1651–1664, 2016.
- [10] T. H. N. Huynh, **A. Alvera-Azcárate**, A. Barth, and J.-M. Beckers. Reconstruction and analysis of long-term satellite-derived sea surface temperature for the South China Sea. *Journal of Oceanography*, 72(5):707–726, 2016.
- [11] **A. Alvera-Azcárate**, Q. Vanhellemont, K. Ruddick, A. Barth, and J.-M. Beckers. Analysis of high frequency geostationary ocean colour data using DINEOF. *Estuarine, Coastal and Shelf Science*, 159:28–36, 2015.
- [12] A. Barth, M. Canter, B. Van Schaeybroeck, S. Vannitsem, F. Massonnet, V. Zunz, P. Mathiot, **A. Alvera-Azcárate**, and J.-M. Beckers. Assimilation of sea surface temperature, sea ice concentration and sea ice drift in a model of the Southern Ocean. *Ocean Modelling*, 93:22–39, 2015.
- [13] A. Barth, J.-M. Beckers, C. Troupin, **A. Alvera-Azcárate**, and L. Vandenbulcke. divand-1.0: n-dimensional variational data analysis for ocean observations. *Geoscientific Model Development*, 7:225–241, 2014. doi: 10.5194/gmd-7-225-2014. URL <http://www.geosci-model-dev.net/7/225/2014/>.

- [14] J.-M. Beckers, A. Barth, C. Troupin, and **A. Alvera-Azcárate**. Approximate and Efficient Methods to Assess Error Fields in Spatial Gridding with Data Interpolating Variational Analysis (DIVA). *Journal of Atmospheric and Oceanic Technology*, 31(2): 515–530, 2014.
- [15] J.-M. Beckers, A. Barth, I. Tomazic, and **A. Alvera-Azcárate**. A method to generate fully multi-scale optimal interpolation by combining efficient single process analyses, illustrated by a DINEOF analysis spiced with a local optimal interpolation. *Ocean Science*, 10:845–862, 2014.
- [16] J.-M. Beckers, A. Barth, C. Troupin, and **A. Alvera-Azcárate**. Approximate and efficient methods to assess error fields in spatial gridding with Diva (Data Interpolating Variational Analysis). *Journal of Atmospheric and Oceanic Technology*, 2013.
- [17] U. Ganzedo, O. Erdaide, A. Trujillo-Santana, **A. Alvera-Azcárate**, and J.J. Castro. Reconstruction of spatiotemporal capture data by means of orthogonal functions: the case of skipjack tuna (*Katsuwonus pelamis*) in the Central-east Atlantic. *Scientia Marina*, 77(4):575–584, 2013.
- [18] J. Richir, N. Luy, G. Lepoint, E. Rozet, **A. Alvera-Azcárate**, and S. Gobert. Experimental in situ exposure of the seagrass *Posidonia oceanica* (L.) Delile to 15 trace elements. *Aquatic Toxicology*, 140-141:157–173, 2013.
- [19] **A. Alvera-Azcárate**, D. Sirjacobs, A. Barth, and J.-M. Beckers. Outlier detection in satellite data using spatial coherence. *Remote Sensing of Environment*, 119:84–91, 2012.
- [20] C. Troupin, A. Barth, D. Sirjacobs, M. Ouberdous, J.-M. Brankart, P. Brasseur, M. Rixen, **A. Alvera-Azcárate**, M. Belounis, A. Capet, F. Lenartz, M.-E. Toussaint, and J.-M. Beckers. Generation of analysis and consistent error fields using the data interpolating variational analysis (diva). *Ocean Modelling*, 2012. doi: 10.1016/j.ocemod.2012.05.002. URL <http://hdl.handle.net/2268/125731>.
- [21] **A. Alvera-Azcárate**, C. Troupin, A. Barth, and J.-M. Beckers. Comparison between satellite and in situ sea surface temperature data in the Western Mediterranean Sea. *Ocean Dynamics*, 61:767–778, 2011. doi: 10.1007/s10236-011-0403-x. doi:10.1007/s10236-011-0403-x.
- [22] **A. Alvera-Azcárate**, A. Barth, R. H. Weisberg, J. J. Castañeda, L. Vandenbulcke, and J.-M. Beckers. Thermocline characterization in the Cariaco basin: a modelling study of the thermocline annual variation and its relation with winds and chlorophyll-a concentration. *Continental Shelf Research*, 31:73–84, 2011.
- [23] B. Nechad, **A. Alvera-Azcárate**, K. Ruddick, and N. Greenwood. Reconstruction of MODIS total suspended matter time series maps by DINEOF and validation with autonomous platform data. *Ocean Dynamics*, 61(8):1205–1214, 2011. doi:10.1007/s10236-011-0425-4.

- [24] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, F. Lenartz, and J.-M. Beckers. Data Interpolating Empirical Orthogonal Functions (DINEOF): a tool for geophysical data analyses. *Mediterranean Marine Science*, 12:5–11, 2011. Special Issue for the IMDIS 2008 conference.
- [25] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, and J. Staneva. Correcting surface winds by assimilating High-Frequency Radar surface currents in the German Bight. *Ocean Dynamics*, 61(5):599–610, 2011. doi: 10.1007/s10236-010-0369-0. doi:10.1007/s10236-010-0369-0.
- [26] U. Ganzedo, **A. Alvera-Azcárate**, G. Esnaola, A. Ezcurra, and J. Sáenz. Reconstruction of Sea Surface Temperature by means of DINEOF. A case study during the fishing season in the Bay of Biscay. *International Journal of Remote Sensing*, 32(4):933–950, 2011.
- [27] D. Sirjacobs, **A. Alvera-Azcárate**, A. Barth, G. Lacroix, Y. Park, B. Nechad, K. Rudick, and J.-M. Beckers. Cloud filling of ocean color and sea surface temperature remote sensing products over the Southern North Sea by the Data Interpolating Empirical Orthogonal Functions methodology. *Journal of Sea Research*, 65(1):114–130, 2011.
- [28] A. Barth, **A. Alvera-Azcárate**, C. Troupin, M. Ouberdous, and J.-M. Beckers. A web interface for gridding arbitrarily distributed in situ data based on Data-Interpolating Variational Analysis (Diva). *Advances in Geosciences*, 28:29–37, 2010.
- [29] A. Barth, **A. Alvera-Azcárate**, J. Staneva, A. Port, K.-W. Gurgel, J.-M. Beckers, and E. Stanev. Ensemble smoother for optimizing tidal boundary conditions by assimilation of High-Frequency Radar surface currents. Application to the German Bight. *Ocean Science*, 6:161–178, 2010.
- [30] **A. Alvera-Azcárate**, A. Barth, D. Sirjacobs, and J.-M. Beckers. Enhancing temporal correlations in EOF expansions for the reconstruction of missing data using DINEOF. *Ocean Science*, 5:475–485, 2009.
- [31] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. A nested model of the Cariaco Basin (Venezuela): description of the basin interior hydrography and interactions with the open ocean. *Ocean Dynamics*, 59:97–120, 2009. doi: 10.1007/s10236-008-0169-y. doi:10.1007/s10236-008-0169-y.
- [32] **A. Alvera-Azcárate**, A. Barth, and R. H. Weisberg. The surface circulation of the Caribbean Sea and the Gulf of Mexico as inferred from satellite altimetry. *Journal of Physical Oceanography*, 39:640–657, 2009. doi: 10.1175/2008JPO3765.1.
- [33] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, R. H. Weisberg, L. Vandenbulcke, F. Lenartz, and M. Rixen. Dynamically constrained ensemble perturbations - application to tides on the West Florida Shelf. *Ocean Science*, 5(3):259–270, 2009.



- [34] R. H. Weisberg, A. Barth, **A. Alvera-Azcárate**, and L. Zheng. A Coordinated Coastal Ocean Observing and Modeling System for the West Florida Continental Shelf. *Harmful Algae*, 8(4):585–597, 2009. doi: 10.1016/j.hal.2008.11.003.
- [35] A. Barth, **A. Alvera-Azcárate**, and R. H. Weisberg. Assimilation of High-Frequency Radar Currents in a Nested Model of the West Florida Shelf. *Journal of Geophysical Research*, 113:C08033, 2008. doi: 10.1029/2007JC004585.
- [36] A. Barth, **A. Alvera-Azcárate**, and R. H. Weisberg. A Nested Model Study of the Loop Current Generated Variability and its Impact on the West Florida Shelf. *Journal of Geophysical Research*, 113:C05009, 2008. doi: 10.1029/2007JC004492. doi:10.1029/2007JC004492.
- [37] A. Barth, **A. Alvera-Azcárate**, and R. H. Weisberg. Benefit of nesting a regional model into a large-scale ocean model instead of climatology. Application to the West Florida Shelf. *Continental Shelf Research*, 28:561–573, 2008. doi: 10.1016/j.csr.2007.11.004. 10.1016/j.csr.2007.11.004.
- [38] L. Vandenbulcke, M. Rixen, J.-M. Beckers, **A. Alvera-Azcárate**, and A. Barth. An analysis of the error space of a high-resolution implementation of the GHER hydrodynamic model in the Mediterranean Sea. *Ocean Modelling*, 24(1-2):46–64, 2008.
- [39] A. Barth, J.-M. Beckers, **A. Alvera-Azcárate**, and R. H. Weisberg. Filtering inertia-gravity waves from the initial conditions of the linear shallow water equations. *Ocean Modelling*, 19:204–218, 2007. doi: 10.1016/j.ocemod.2007.06.007.
- [40] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, M. Rixen, and L. Vandenbulcke. Multi-grid state vector for data assimilation in a two-way nested model of the Ligurian Sea. *Journal of Marine Systems*, 65:41–59, 2007. doi: 10.1016/j.jmarsys.2005.07.006.
- [41] C. Raick, **A. Alvera-Azcárate**, A. Barth, J.-M. Brankart, K. Soetaert, and M. Grégoire. Application of a SEEK filter to a 1d biogeochemical model of the Ligurian sea: twin experiments and real in situ data assimilation. *Journal of Marine Systems*, 65:561–583, 2007.
- [42] **A. Alvera-Azcárate**, A. Barth, J.-M. Beckers, and R. H. Weisberg. Multivariate reconstruction of missing data in sea surface temperature, chlorophyll and wind satellite fields. *Journal of Geophysical Research*, 112:C03008, 2007. doi:10.1029/2006JC003660.
- [43] **A. Alvera-Azcárate**, A. Barth, Z. Ben Bouallègue, M. Rixen, and J.-M. Beckers. Forecast Verification of a 3D model of the Ligurian Sea. The use of Discrete Wavelet Transforms and EOFs in the Skill Assessment of Spatial Forecasts. *Journal of Marine Systems.*, 65:460–483, 2006. doi: 10.1016/j.jmarsys.2005.09.015.
- [44] A. Barth, **A. Alvera-Azcárate**, J.-M. Beckers, and M. Rixen. Coupling a two-way nested primitive equation model and a statistical SST predictor of the Ligurian Sea via data assimilation. *Ocean Modelling*, 13:255–270, 2006. doi: 10.1016/j.ocemod.2006.02.003.

- [45] J.-M. Beckers, A. Barth, and **A. Alvera-Azcárate**. DINEOF reconstruction of clouded images including error maps. Application to the Sea Surface Temperature around Corsican Island. *Ocean Science*, 2(2):183–199, 2006.
- [46] L. Vandenbulcke, A. Barth, M. Rixen, **A. Alvera-Azcárate**, Z. Ben Bouallegue, and J.-M. Beckers. Study of the combined effects of data assimilation and grid nesting in ocean models. Application to the Gulf of Lions. *Ocean Science*, 2(2):213–222, 2006.
- [47] **A. Alvera-Azcárate**, A. Barth, M. Rixen, and J.-M. Beckers. Reconstruction of incomplete oceanographic data sets using Empirical Orthogonal Functions. Application to the Adriatic Sea surface temperature. *Ocean Modelling.*, 9:325–346, 2005. doi: 10.1016/j.ocemod.2004.08.001. doi:10.1016/j.ocemod.2004.08.001.
- [48] A. Barth, **A. Alvera-Azcárate**, M Rixen, and J.-M. Beckers. Two-way nested model of mesoscale circulation features in the Ligurian Sea. *Progress in Oceanography*, 66: 171–189, 2005. doi: 10.1016/j.pocean.2004.07.017.
- [49] **A. Alvera-Azcárate**, J. G. Ferreira, and J. P. Nunes. Modelling eutrophication in mesotidal and macrotidal estuaries. The role of intertidal seaweeds. *Estuarine Coastal and Shelf Science*, 57:715–724, 2003.
- [50] J. A. Herrera-Melián, J. M. Dona-Rodriguez, E. Tello Rendón, A. Soler Vila, M. Brunet Quetglas, **A. Alvera Azcárate**, and L. Pascual Pariente. Solar photocatalytic destruction of p-nitrophenol: A pedagogical use of lab wastes. *Journal of Chemical Education*, 78(6):775, 2001.

## 11 Editorials

- [1] **A. Alvera-Azcárate**, K. Ruddick, and P. Minnett. Preface to liège colloquium special issue. remote sensing of ocean colour, temperature and salinity - new challenges and opportunities. *Remote Sensing of Environment*, 146:1–2, 2014. doi: 10.1016/j.rse.2013.10.031.
- [2] **A. Alvera-Azcárate** and P.-M. Poulain. Multiparametric observation and analysis of the sea. *Ocean Dynamics*, 61(10):1491–1493, 2011. doi: 10.1007/s10236-011-0492-6.
- [3] Y. Kerr, N. Reul, M. Martin-Neira, M. Drusch, **A. Alvera-Azcárate**, J.-P. Wigneron, and S. Mecklenburg. Esa’s soil moisture and ocean salinity mission - achievements and applications after more than 6 years in orbit. *Remote Sensing of Environment*, 2016. doi: 10.1016/j.rse.2016.03.020.