Odran Sourdeval
Associate Professor of Atmospheric Physics

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Curriculum Vitae | 11 mai 2023

Personal

Born in 1986 in Lille, France
Nationality : French | Languages : French (native) ; English (fluent) ; German (intermediate)

Education

Ph.D. in Atmospheric Sciences **2012**
Laboratoire d'Optique Atmosphérique ; University of Lille, France
Dissertation : "Study of the Optical and Radiative Properties of Cirrus Clouds from the Synergy between Active and Passive Measurements : Application in the Context of A-Train and Other Spatial Missions"

M.Sc. in Optics, Molecular and Atmospheric Physics **2009**
University of Montreal, Canada ; University of Lille, France

B.Sc. in Physics **2007**
University of Lille, France

Positions Held

Associate Professor **Sept. 2018 – Present**
Department of Physics | University of Lille, France
Laboratoire d'Optique Atmosphérique | "Clouds and Radiation" research group

Research Scientist **Nov. 2012 – Aug. 2018**
Faculty of Physics and Earth Sciences | University of Leipzig, Germany
Leipziger Institut für Meteorologie | "Clouds and Global Climate" research group (head : Prof. J. Quaas)

Graduate Researcher **Oct. 2009 – Oct. 2012**
Laboratoire d'Optique Atmosphérique, University of Lille, France

Research Activities

General interests

Odran Sourdeval's research interests lie in the understanding of cloud processes, aerosol-cloud interactions (aci) and their radiative effects, via a combined use of remote-sensing, modelling and in-situ observations. Building on his expertise in the development of satellite retrieval schemes, he has long contributed to operating a shift from a traditional view on satellite products to quantities better adapted for model evaluation and aci studies. His main current research focuses on improving observation-based estimates of the effective radiative forcing due to aci for liquid but also ice clouds, through better constraints on key cloud parameters such as the number concentration in particles. Most of Odran's work remains closely linked to current and for future spatial missions.

Keywords : Cloud physics | Aerosol-cloud interactions | Radiative forcing | Satellite remote-sensing | Cloud modelling | Retrieval algorithm development | Model evaluation | Data assimilation

Academic responsibilities

- Academic coordinator of the M.Sc. in Atmospheric Sciences at University of Lille (since 2020)
- Board member of the International Commission for Clouds and Precipitation (ICCP ; since 2021).
- Board member of the Early Career Scientists committee of the International Association of Meteorology and Atmospheric Sciences (IAMAS ; since 2020).
- Steering committee member for the French Research Consortium (*GdR*) EECLAT (since 2020)
- Convener for 6 sessions at international conferences and workshops
- 5 invited presentations at international conferences or institute seminars
- Editor for ACP (since 2022) ; Associate editor for AIMS Geosciences (2017-2021)
- 23 reviews for 10 academic journals (data since 2018)
- Proposal reviewer for DFG

Funding in large collaborative projects

MPC2 *(ANR)* | Work package leader **2023 – 2027**
Microphysical **P**rocess **C**haracterization of **M**ixed **P**hase **C**louds in the European Arctic
- Improvement of satellite remote-sensing products for process studies in the Arctic

CDNC4aci *(ANR / DFG)* | Project co-leader (co-I. J. Quaas) **2021 – 2024**
Cloud **D**roplet **N**umber **C**oncentration satellite retrievals **A**dvanced by **A**tmospheric models for **A**ssessing **A**erosol-**C**loud **I**nteractions
- Improvement of global droplet number concentration retrievals via a novel satellite - modelling joint approach.
- Closure in the effective radiative forcing associated with aerosol - cloud interaction from model / observations.

IASI *(CNES)* | Work package leader **2020 – Present**
Infrared **A**tmospheric **S**ounding **I**nterferometer
- Assessment of the sensitivity of IASI measurements to the size distribution of ice particles.

EECLAT *(CNES)* | Work package leader **2015 – Present**
Expecting **E**arthCare, **L**earning from the **A**-**T**rain
- Development of a multi-layer cloud retrieval algorithm and assessment of existing satellite products.
- Preparation of algorithms in perspective of the future satellite mission EarthCare.

National funding for Ph.D. projects

Region HdF / Labex CaPPA (co-I. J. Riedi) **2021 – 2023**
Thesis : Detection of ice cloud formation mechanisms from satellite observations

Other project responsibilities

TRISHNA *(CNES, ISRO)* | Member of the “Atmosphere” mission group **2019 – Present**
Thermal infra**R**ed **I**maging **S**atellite for **H**igh-resolution **N**atural resource **A**ssessment
- Definition of atmospheric (cloud) products for the future satellite mission TRISHNA.

GIVE *(ESA)* | Work package leader **2017 – 2018**
The **G**erman **I**nitiative for the **V**alidation of **E**arthCARE
- Calibration of operational algorithms of the EarthCare mission using high-resolution modelling.

FLASH *(DFG)* | Project member **2016 – 2018**
Forcing in the **L**ong-wave spectrum due to **A**erosol-cloud interactions : **S**atellite and modeling vs. **H**ALO
- Joint satellite – in-situ assessment of interactions between anthropogenic aerosols and ice clouds.

HD(CP)^2 *(BMBF)* | Project member **2012 – 2018**
High **D**efinition **C**louds and **P**recipitation for **C**limate **P**rediction
- Evaluation of high-resolution ICON-LEM simulations based on satellite observations.
- Detection-attribution of cloud adjustments from anthropogenic aerosol perturbations in multi-scale simulations.

Teaching Activities

Italics highlight graduate-level courses.

University of Lille | Full-time Lecturer ; 192 hrs / year **2018 – Present**
Atmospheric Modelling | *Space Observatories* | *Radiative Transfer* | *Cloud Physics* | Introductory Physics | Fluid Dynamics | Research Projects in Renewable Energies | Practical Experiments in Physics | Environmental Engineering

University of Leipzig | Part-time Lecturer ; 40 hrs / year **2012 – 2018**
Data Assimilation | Atmospheric Thermo- and Hydro-dynamics | Introduction to Statistics

University of Leipzig | Guest Lecturer ; 1 week / year (Erasmus+ mobility) **2019 – 2022**
Data Assimilation | Atmospheric Dynamics | Climate Sensitivty and Global Warming (PBL)

University of Oujda | Guest Lecturer ; 1 week / year **2019 – 2022**
Radiative Transfer

Advisor activities

- 1 PhD thesis | 11 Master or Bachelor theses | 1 Post-doctoral researcher

Undergraduate Students

1. F. Hemmer | Uncertainties in the retrieval of cloud properties from satellite remote sensing **2013**

2. F. Kaoudone | Introduction to data assimilation for weather forecasting **2018**
3. E. Devigne | Diurnal and seasonal variations in the properties of cold clouds **2020**
4. O. Kharroubi | The cloud geometrical thickness : a challenge for satellite observations **2021**
5. M. Zjawiony | Satellite study of cloud response to the increasing anthropogenic aerosol emissions **2022**

Graduate Students

1. F. Hemmer, M.Sc. | Analysis of the global distribution of ice crystal number concentration **2015**
2. C. Böhm, M.Sc. | Cloud base height retrievals from multi-angle satellite data **2016**
3. A. Saiprakash, M.Sc. | Did COVID-19 restrictions offer low-hanging fruits for understanding of aerosol-cloud interactions at regional scale ? **2020**
4. **A. Saiprakash**, Ph.D. | Detection of ice cloud formation mechanisms from satellite observations **2021 – 2023**
5. X. Luo, M.Sc. | Assessment of biases in Twomey effect estimates from satellite observations using a high-resolution modeling framework **2022**
6. E. Devigne, M.Sc. | The impact of clouds and atmospheric particles on night-time light pollution **2022**
7. E. Devigne, M.Sc. | Understanding the effect of high-altitude aerosols on cloud properties obtained from satellite observations **2023**

(PhD candidates are highlighted in bold)

Post-graduate researchers

1. A. Simeon | CDNC4aci project **2021 – 2023**

Publications

- 35 publications in 13 peer-reviewed journals
- 3 public dataset | 1 public algorithm | 3 peer-reviewed conference proceedings
- Google Scholar : 1666 citations, h-index 18 | Web of Science 1245 citations, h-index 16

Peer-reviewed Journals

Preprints

1. García, I. B., **Sourdeval, O.**, Spang, R., and Krämer, M. : Technical note : Bimodal Parameterizations of in situ Ice Cloud Particle Size Distributions, EGU Sphere, 2023

2023

2. Lyu, K., Liu, X., Bacmeister, J., Zhao, X., Lin, L., Shi, Y., and **Sourdeval, O.** : Orographic Cirrus and Its Radiative Forcing in Ncar Cam6, Journal of Geophysical Research : Atmospheres, nil, nil, 10.1029/2022jd038164, 2023

2022

3. Danker, J., **Sourdeval, O.**, McCoy, I. L., Wood, R., and Possner, A. : Exploring Relations Between Cloud Morphology, Cloud Phase, and Cloud Radiative Properties in Southern Ocean's Stratocumulus Clouds, Atmos. Chem. Phys., 22, 10 247–10 265, 10.5194/acp-22-10247-2022, 2022
4. Dipu, S., Schwarz, M., Ekman, A. M. L., Gryspeerdt, E., Goren, T., **Sourdeval, O.**, Mülmenstädt, J., and Quaas, J. : Exploring Satellite-Derived Relationships Between Cloud Droplet Number Concentration and Liquid Water Path Using a Large-Domain Large-Eddy Simulation, Tellus B : Chemical and Physical Meteorology, 74, 176, 10.16993/tellusb.27, 2022
5. Herreras-Giralda, M., Litvinov, P., Dubovik, O., Derimian, Y., Lapyonok, T., Fuertes, D., **Sourdeval, O.**, Preusker, R., and Fischer, J. : Thermal Emission in the Successive Orders of Scattering (SOS) Radiative Transfer Approach., J. Quant. Spectrosc. Radiat. Transfer, nil, 108 327, 10.1016/j.jqsrt.2022.108327, 2022
6. Jia, H., Quaas, J., Gryspeerdt, E., Böhm, C., and **Sourdeval, O.** : Addressing the difficulties in quantifying droplet number response to aerosol from satellite observations, Atmos. Chem. Phys., 22, 7353–7372, 10.5194/acp-22-7353-2022, 2022
7. Marjani, S., Tesche, M., Bräuer, P., **Sourdeval, O.**, and Quaas, J. : Satellite Observations of the Impact of Individual Aircraft on Ice Crystal Number in Thin Cirrus Clouds, Geophys. Res. Lett., 49, e2021GL096 173, 10.1029/2021gl096173, 2022
8. Papakonstantinou-Presvelou, I., **Sourdeval, O.**, and Quaas, J. : Strong Ocean/sea-ice Contrasts Observed in Satellite-derived Ice Crystal Number Concentrations in Arctic Ice Boundary-layer Clouds, Geophys. Res. Lett., 49, 10.1029/2022gl098207, 2022

9. Sporre, M., Friberg, J., Svenhag, C., **Sourdeval, O.**, and Storelvmo, T. : Springtime Stratospheric Volcanic Aerosol Impact on Midlatitude Cirrus Clouds, Geophys. Res. Lett., 49, e2021GL096 171, 10.1029/2021gl096171, 2022

2021

10. Bacer, S., Sullivan, S. C., **Sourdeval, O.**, Tost, H., Lelieveld, J., and Pozzer, A. : Cold Cloud Microphysical Process Rates in a Global Chemistry-Climate Model, Atmos. Chem. Phys., 21, 1485–1505, 10.5194/acp-21-1485-2021, 2021

2020

11. Bellouin, N., Quaas, J., Gryspeerdt, E., Kinne, S., Stier, P., Watson-Parris, D., Boucher, O., Carslaw, K. S., Christensen, M., Daniau, A.-L., Dufresne, J.-L., Feingold, G., Fiedler, S., Forster, P., Gettelman, A., Haywood, J. M., Lohmann, U., Malavelle, F., Mauritsen, T., McCoy, D. T., Myhre, G., Mülmenstädt, J., Neubauer, D., Possner, A., Rugenstein, M., Sato, Y., Schulz, M., Schwartz, S. E., **Sourdeval, O.**, Storelvmo, T., Toll, V., Winker, D., and Stevens, B. : Bounding Global Aerosol Radiative Forcing of Climate Change, Reviews of Geophysics, 58, e2019RG000 660, 10.1029/2019RG000660, 2020
12. Costa-Surós, M., **Sourdeval, O.**, Acquistapace, C., Baars, H., Henken, C. C., Genz, C., Hesemann, J., Jimenez, C., König, M., Kretzschmar, J., Madenach, N., Meyer, C. I., Schrödner, R., Seifert, P., Senf, F., Brueck, M., Cioni, G., Engels, J. F., Fieg, K., Gorges, K., Heinze, R., Siligam, P. K., Burkhardt, U., Crewell, S., Hoose, C., Seifert, A., Tegen, I., and Quaas, J. : Detection and Attribution of Aerosol-cloud Interactions in Large-Domain Large-Eddy Simulations With the Icosahedral Non-Hydrostatic Model, Atmos. Chem. Phys., 20, 5657–5678, 10.5194/acp-20-5657-2020, 2020
13. Krämer, M., Rolf, C., Spelten, N., Afchine, A., Fahey, D., Jensen, E., Khaykin, S., Kuhn, T., Lawson, P., Lykov, A., Pan, L. L., Riese, M., Rollins, A., Stroh, F., Thornberry, T., Wolf, V., Woods, S., Spichtinger, P., Quaas, J., and **Sourdeval, O.** : A Microphysics Guide To Cirrus - Part 2 : Climatologies of Clouds and Humidity From Observations, Atmos. Chem. Phys., 20, 12 569–12 608, 10.5194/acp-20-12569-2020, 2020
14. Quaas, J., Arola, A., Cairns, B., Christensen, M., Deneke, H., Ekman, A. M. L., Feingold, G., Fridlind, A., Gryspeerdt, E., Hasekamp, O., Li, Z., Lipponen, A., Ma, P.-L., Mülmenstädt, J., Nenes, A., Penner, J. E., Rosenfeld, D., Schrödner, R., Sinclair, K., **Sourdeval, O.**, Stier, P., Tesche, M., van Diedenhoven, B., and Wendisch, M. : Constraining the Twomey Effect From Satellite Observations : Issues and Perspectives, Atmos. Chem. Phys., 20, 15 079–15 099, 10.5194/acp-20-15079-2020, 2020
15. Stevens, B., Acquistapace, C., Hansen, A., Heinze, R., Klinger, C., Klocke, D., Rybka, H., Schubotz, W., Windmiller, J., Adamidis, P., Arka, I., Barlakas, V., Biercamp, J., Brueck, M., Brune, S., Buehler, S. A., Burkhardt, U., Cioni, G., Costa-Surós, M., Crewell, S., Crüger, T., Deneke, H., Friederichs, P., Henken, C. C., Hohenegger, C., Jacob, M., Jakub, F., Kalthoff, N., Köhler, M., Laar, T. W. V., Li, P., Löhnert, U., Macke, A., Madenach, N., Mayer, B., Nam, C., ann Kristin Naumann, Peters, K., Poll, S., Quaas, J., Röber, N., Rochetin, N., Scheck, L., Schemann, V., Schnitt, S., Seifert, A., Senf, F., Shapkalijevski, M., Simmer, C., Singh, S., **Sourdeval, O.**, Spickermann, D., Strandgren, J., Tessiot, O., Vercauteren, N., Vial, J., Voigt, A., and Zängl, G. : The Added Value of Large-Eddy and Storm-Resolving Models for Simulating Clouds and Precipitation, Journal of the Meteorological Society of Japan. Ser. II, 98, 395–435, 10.2151/jmsj.2020-021, 2020
16. Unglaub, C., Block, K., Mülmenstädt, J., **Sourdeval, O.**, and Quaas, J. : A New Classification of Satellite-Derived Liquid Water Cloud Regimes At Cloud Scale, Atmos. Chem. Phys., 20, 2407–2418, 10.5194/acp-20-2407-2020, 2020
17. Wall, C. J., Norris, J. R., Gasparini, B., Smith, William L., J., Thieman, M. M., and **Sourdeval, O.** : Observational Evidence that Radiative Heating Modifies the Life Cycle of Tropical Anvil Clouds, J. Clim., pp. 1–68, 10.1175/JCLI-D-20-0204.1, 2020

2019

18. Böhm, C., **Sourdeval, O.**, Mülmenstädt, J., Quaas, J., and Crewell, S. : Cloud Base Height Retrieval From Multi-Angle Satellite Data, Atmos. Meas. Tech., 12, 1841–1860, 10.5194/amt-12-1841-2019, 2019a
19. Gryspeerdt, E., Goren, T., **Sourdeval, O.**, Quaas, J., Mülmenstädt, J., Dipu, S., Unglaub, C., Gettelman, A., and Christensen, M. : Constraining the Aerosol Influence on Cloud Liquid Water Path, Atmos. Chem. Phys., 19, 5331–5347, 10.5194/acp-19-5331-2019, 2019
20. Madenach, N., Carbajal Henken, C., Preusker, R., **Sourdeval, O.**, and Fischer, J. : Analysis and quantification of ENSO-linked changes in the tropical Atlantic cloud vertical distribution using 14 years of MODIS observations, Atmos. Chem. Phys., 19, 13 535–13 546, 10.5194/acp-19-13535-2019, 2019

2018

21. Baran, A. J., Ishimoto, H., **Sourdeval, O.**, Hesse, E., and Harlow, C. : The Applicability of Physical Optics in the Millimetre and Sub-Millimetre Spectral Region. Part Ii : Application To a Three-Component Model of Ice Cloud and Its Evaluation Against the Bulk Single-Scattering Properties of Various Other Aggregate Models, J. Quant. Spectrosc. Radiat. Transfer, 206, 83 – 100, 10.1016/j.jqsrt.2017.10.027, 2018
22. Fauchez, T., Platnick, S., **Sourdeval, O.**, Wang, C., Meyer, K., Cornet, C., and Szczap, F. : Cirrus Horizontal Heterogeneity and 3-d Radiative Effects on Cloud Optical Property Retrievals From Modis Near To Thermal Infrared Channels As a Function of Spatial Resolution, J. Geophys. Res. Atmos., 123, 11,141–11,153, 10.1029/2018jd028726, 2018
23. Goren, T., Rosenfeld, D., **Sourdeval, O.**, and Quaas, J. : Satellite Observations of Precipitating Marine Stratocumulus Show Greater Cloud Fraction for Decoupled Clouds in Comparison To Coupled Clouds, Geophys. Res. Lett., 45, 5126–5134, 10.1029/2018GL078122, 2018
24. Gryspeerdt, E., **Sourdeval, O.**, Quaas, J., Delanoë, J., Krämer, M., and Kühne, P. : Ice Crystal Number Concentration Estimates From Lidar–radar Satellite Remote Sensing – Part 2 : Controls on the Ice Crystal Number Concentration, Atmos. Chem. Phys., 18, 14 351–14 370, 10.5194/acp-18-14351-2018, 2018
25. Grosvenor, D. P., **Sourdeval, O.**, Zuidema, P., Ackerman, A. S., Alexandrov, M. D., Bennartz, R., Boers, R., Cairns, B., Chiu, C., Christensen, M., Deneke, H., Diamond, M., Feingold, G., Fridlind, A., Hünerbein, A., Knist, C., Kollias, P., Marshak, A., McCoy, D., Merk, D., Painemal, D., Rausch, J., Rosenfeld, D., Russchenberg, H., Seifert, P., Sinclair, K., Stier, P., van Diedenhoven, B., Wendisch, M., Werner, F., Wood, R., Zhang, Z., and Quaas, J. : Remote Sensing of Droplet Number Concentration in Warm Clouds : a Review of the Current State of Knowledge and Perspectives, Reviews of Geophysics, 56, 10.1029/2017RG000593, 2018b
26. Grosvenor, D. P., **Sourdeval, O.**, and Wood, R. : Parameterizing Cloud Top Effective Radii From Satellite Retrieved Values, Accounting for Vertical Photon Transport : Quantification and Correction of the Resulting Bias in Droplet Concentration and Liquid Water Path Retrievals, Atmos. Meas. Tech., 11, 4273–4289, 10.5194/amt-11-4273-2018, 2018a
27. Mülmenstädt, J., **Sourdeval, O.**, Henderson, D. S., L'Ecuyer, T. S., Unglaub, C., Jungandreas, L., Böhm, C., Russell, L. M., and Quaas, J. : Using Caliop To Estimate Cloud-Field Base Height and Its Uncertainty : the Cloud Base Altitude Spatial Extrapolator (CBASE) Algorithm and Dataset, Earth Syst. Sci. Data, 10, 2279–2293, 10.5194/essd-10-2279-2018, 2018
28. **Sourdeval, O.**, Gryspeerdt, E., Krämer, M., Goren, T., Delanoë, J., Afchine, A., Hemmer, F., and Quaas, J. : Ice crystal number concentration estimates from lidar–radar satellite remote sensing – Part 1 : Method and evaluation, Atmos. Chem. Phys., 18, 14 327–14 350, 10.5194/acp-18-14327-2018, 2018a

2017

29. Baran, A. J., Hesse, E., and **Sourdeval, O.** : The Applicability of Physical Optics in the Millimetre and Sub-Millimetre Spectral Region. Part I : the Ray Tracing With Diffraction on Facets Method, J. Quant. Spectrosc. Radiat. Transfer, 190, 13–25, 10.1016/j.jqsrt.2016.12.030, 2017
30. Dipu, S., Quaas, J., Wolke, R., Stoll, J., Mühlbauer, A., **Sourdeval, O.**, Salzmann, M., Heinold, B., and Tegen, I. : Implementation of Aerosol–cloud Interactions in the Regional Atmosphere–aerosol Model COSMO-MUSCAT(5.0) and Evaluation Using Satellite Data, Geosci. Model Dev., 10, 2231–2246, 10.5194/gmd-10-2231-2017, 2017
31. Heinze, R., Dipankar, A., Henken, Cintia, C., Moseley, C., **Sourdeval, O.**, Trömel, S., Xie, X., Adamidis, P., Ament, F., Baars, H., Barthlott, C., Behrendt, A., Blahak, U., Bley, S., Brdar, S., Brueck, M., Crewell, S., Deneke, H., Di Girolamo, P., Evaristo, R., Fischer, J., Frank, C., Friederichs, P., Göcke, T., Gorges, K., Hande, L., Hanke, M., Hansen, A., Hege, H.-C., Hoose, C., Jahns, T., Kalthoff, N., Klocke, D., Kneifel, S., Knippertz, P., Kuhn, A., van Laar, T., Macke, A., Maurer, V., Mayer, B., Meyer, C. I., Muppa, S. K., Neggers, R. A. J., Orlandi, E., Pantillon, F., Pospichal, B., Röber, N., Scheck, L., Seifert, A., Seifert, P., Senf, F., Siligam, P., Simmer, C., Steinke, S., Stevens, B., Wapler, K., Weniger, M., Wulfmeyer, V., Zängl, G., Zhang, D., and Quaas, J. : Large-Eddy Simulations Over Germany Using Icon : a Comprehensive Evaluation, Quart. J. Roy. Meteor. Soc., 143, 69–100, 10.1002/qj.2947, 2017

2016

32. **Sourdeval, O.**, C. Labonnote, L., Baran, A. J., Mülmenstädt, J., and Brogniez, G. : A methodology for simultaneous retrieval of ice and liquid water cloud properties. Part 2 : Near-global retrievals and evaluation against A-Train products, Quart. J. Roy. Meteor. Soc., 142, 3063–3081, 10.1002/qj.2889, 2016

2015

33. **Sourdeval, O.**, C. Labonnote, L., Baran, A. J., and Brogniez, G. : A methodology for simultaneous retrieval of ice and liquid water cloud properties. Part I : Information content and case study, Quart. J. Roy. Meteor. Soc., 141, 870–882, 10.1002/qj.2405, 2015
34. Mülmenstädt, J., **Sourdeval, O.**, Delanoë, J., and Quaas, J. : Frequency of occurrence of rain from liquid-, mixed-, and ice-phase clouds derived from A-Train satellite retrievals, Geophys. Res. Lett., 42, 6502–6509, 10.1002/2015GL064604, 2015

2013

35. **Sourdeval, O.**, Labonnote, L. C., Brogniez, G., Jourdan, O., Pelon, J., and Garnier, A. : A variational approach for retrieving ice cloud properties from infrared measurements : application in the context of two IIR validation campaigns, Atmos. Chem. Phys., 13, 8229–8244, 10.5194/acp-13-8229-2013, 2013b

2012

36. **Sourdeval, O.**, Brogniez, G., Pelon, J., C. Labonnote, L., Dubuisson, P., Parol, F., Josset, D., Garnier, A., Faivre, M., and Minikin, A. : Validation of IIR/CALIPSO Level 1 Measurements by Comparison with Collocated Airborne Observations during CIRCLE-2 and Biscay '08 Campaigns, J. Atmos. Oceanic Technol., 29, 653–667, 10.1175/JTECH-D-11-00143.1, 2012

Conference Proceedings

1. Fauchez, T., Platnick, S., **Sourdeval, O.**, Meyer, K., Cornet, C., Zhang, Z., Szczap, F., Davies, R., Egli, L., and Schmutz, W. : Cirrus heterogeneity effects on cloud optical properties retrieved with an optimal estimation method from MODIS VIS to TIR channels, in : AIP Conference Proceedings, vol. 1810, 10.1063/1.4975504, 2017
2. **Sourdeval, O.**, C. Labonnote, L., Brogniez, G., and Baran, A. J. : Simultaneous multi-layer retrievals of ice and liquid water cloud properties using passive measurements, in : AIP Conference Proceedings, vol. 1531, pp. 252–255, 10.1063/1.4804754, 2013a
3. **Sourdeval, O.**, Brogniez, G., Dubuisson, P., Parol, F., Labonnote, L. C., and Pelon, J. : Validation of Imaging Infrared Radiometer (IIR) onboard CALIPSO during the CIRCLE-2 and VALIDATION-CALIPSO campaigns, in : Third Recent Advances in Quantitative Remote Sensing (RAQRS), edited by Sobrino, J. A., pp. 745–750, 2010

Data Products

1. Böhm, C., **Sourdeval, O.**, Mülmenstädt, J., Quaas, J., and Crewell, S. : MIBase cloud base height derived from satellite data, 10.5880/CRC1211DB.19, 2019b
2. Mülmenstädt, J., **Sourdeval, O.**, Henderson, D. S., L'Ecuyer, T. S., Unglaub, C., Jungandreas, L., Böhm, C., Russell, L. M., and Quaas, J. : Using CALIOP to estimate cloud-field base height and its uncertainty : the Cloud Base Altitude Spatial Extrapolator (CBASE) algorithm and dataset, 10.1594/WDCC/CBASE, 2018
3. **Sourdeval, O.**, Gryspeerdt, E., Krämer, M., Goren, T., Delanoë, J., Afchine, A., Hemmer, F., and Quaas, J. : Ice crystal number concentration from satellite lidar-radar observations (DARDAR-Nice) [Data set], 10.25326/09, 2018b

Public Algorithm

1. S3COM - Satellite Simulator and Sandbox for Cloud Observation and Modelling