

2023

Arioli, S., G. Picard, L. Arnaud and V. Favier. 2023. Dynamics Of The Snow Grain Size In A Windy Coastal Area Of Antarctica From Continuous In Situ Spectral-Albedo Measurements. *Cryosphere*, 232322–234222.

Da Silva, E. and 38 others. 2023. Towards Operational Fiducial Reference Measurement (Frm) Data For The Calibration And Validation Of The Sentinel-3 Surface Topography Mission Over Inland Waters, Sea Ice, And Land Ice. *Remote Sensing*, **15**(191).

Dumont, M. and 38 others. 2023. Spatial Variability Of Saharan Dust Deposition Revealed Through A Citizen Science Campaign. *Earth System Science Data*, **15**(7), 3075–3094.

Kokhanovsky, A. and 10 others. 2023. First Retrievals Of Surface And Atmospheric Properties Using Enmap Measurements Over Antarctica. *Remote Sensing*.

Lamare, M., F. Domine, J. Revuelto, M. Pelletier, L. Arnaud and G. Picard. 2023. Investigating The Role Of Shrub Height And Topography In Snow Accumulation On Low-Arctic Tundra Using Uav-Borne Lidar. *Journal Of Hydrometeorology*, 83588–85388.

Robledano, A., G. Picard, M. Dumont, F. Flin, L. Arnaud and Q. Libois. 2023. Unraveling The Optical Shape Of Snow. *Nature Communications*, **14**(1).

Sicart, J. and 17 others. 2023. Snow Accumulation And Ablation Measurements In A Midlatitude Mountain Coniferous Forest (Col De Porte, France, 1325 M Altitude): The Snow Under Forest (Snouf) Field Campaign Data Set. *Earth System Science Data*, **15**(111), 5121–5133.

2022

Picard, G. and 9 others. 2022. The Microwave Snow Grain Size: A New Concept To Predict Satellite Observations Over Snow-Covered Regions. *Agu Advances*, **3**(4).

Robledano, A., G. Picard, L. Arnaud, F. Larue and I. Ollivier. 2022. Modelling surface temperature and radiation budget of snow-covered complex terrain. *Cryosphere*, **16**(2), 559–579.

Verin, G., F. Domine, M. Babin, G. Picard and L. Arnaud. 2022. Metamorphism Of Snow On Arctic Sea Ice During The Melt Season: Impact On Spectral Albedo And Radiative Fluxes Through Snow. *Cryosphere*, **16**(9), 3431–3449.

2021

Belke-Brea, M., F. Domine, G. Picard, M. Barrere and L. Arnaud. 2021. On the influence of erect shrubs on the irradiance profile in snow. *Biogeosciences*, **18**(21), 5851–5869.

Casado, M. and 6 others. 2021. Water Isotopic Signature of Surface Snow Metamorphism in Antarctica. *Geophysical Research Letters*, **48**(17).

Kokhanovsky, A., S. Gascoin, L. Arnaud and G. Picard. 2021. Retrieval of Snow Albedo and Total Ozone Column from Single-View MSI/S-2 Spectral Reflectance Measurements over Antarctica. *Remote Sensing*, **13**(21).

Larue, F. and 9 others. 2021. Radar altimeter waveform simulations in Antarctica with the Snow

Microwave Radiative Transfer Model (SMRT). *Remote Sensing Of Environment*, **263**.

Olmi, R., M. Bittelli, G. Picard, L. Arnaud, A. Mialon and S. Priori. 2021. Investigating the influence of the grain size and distribution on the macroscopic dielectric properties of Antarctic firn. *Cold Regions Science And Technology*, **185**.

Vincent, C. and 15 others. 2021. Geodetic point surface mass balances: a new approach to determine point surface mass balances on glaciers from remote sensing measurements. *Cryosphere*, **15**(3), 1259–1276.

2020

Belke-Brea, M., F. Domine, M. Barrere, G. Picard and L. Arnaud. 2020. Impact of Shrubs on Winter Surface Albedo and Snow Specific Surface Area at a Low Arctic Site: In Situ Measurements and Simulations. *Journal Of Climate*, **33**(2), 597–609.

Belke-Brea, M. and 6 others. 2020. New Allometric Equations for Arctic Shrubs and Their Application for Calculating the Albedo of Surfaces with Snow and Protruding Branches. *Journal Of Hydrometeorology*, **21**(11), 2581–2594.

Cluzet, B. and 7 others. 2020. Towards the assimilation of satellite reflectance into semi-distributed ensemble snowpack simulations. *Cold Regions Science And Technology*, **170**.

Fourteau, K. and 6 others. 2020. Historical porosity data in polar firn. *Earth System Science Data*, **12**(2), 1171–1177.

Lamare, M. and 6 others. 2020. Simulating optical top-of-atmosphere radiance satellite images over snow-covered rugged terrain. *Cryosphere*, **14**(11), 3995–4020.

Larue, F. and 8 others. 2020. Snow albedo sensitivity to macroscopic surface roughness using a new ray-tracing model. *Cryosphere*, **14**(5), 1651–1672.

Massicotte, P. and 109 others. 2020. Green Edge ice camp campaigns: understanding the processes controlling the under-ice Arctic phytoplankton spring bloom. *Earth System Science Data*, **12**(1), 151–176.

Picard, G. and 6 others. 2020. Spectral albedo measurements over snow-covered slopes: theory and slope effect corrections. *Cryosphere*, **14**(5), 1497–1517.

Tuzet, F. and 9 others. 2020. Quantification of the radiative impact of light-absorbing particles during two contrasted snow seasons at Col du Lautaret (2058ma.s.l., French Alps). *Cryosphere*, **14**(12), 4553–4579.

2019

Champollion, N. and 6 others. 2019. Marked decrease in the near-surface snow density retrieved by AMSR-E satellite at Dome C, Antarctica, between 2002 and 2011. *Cryosphere*, **13**(4), 1215–1232.

Fourteau, K. and 12 others. 2019. Multi-tracer study of gas trapping in an East Antarctic ice core. *Cryosphere*, **13**(12), 3383–3403.

Kokhanovsky, A. and 29 others. 2019. Retrieval of Snow Properties from the Sentinel-3 Ocean and Land Colour Instrument. *Remote Sensing*, **11**(19).

Picard, G., L. Arnaud, R. Caneill, E. Lefebvre and M. Lamare. 2019. Observation of the process of snow accumulation on the Antarctic Plateau by time lapse laser scanning. *Cryosphere*, **13**(7), 1983–1999.

Tuzet, F. and 7 others. 2019. Influence of light-absorbing particles on snow spectral irradiance profiles. *Cryosphere*, **13**(8), 2169–2187.

2018

Casado, M. and 12 others. 2018. Archival processes of the water stable isotope signal in East Antarctic ice cores. *Cryosphere*, **12**(5), 1745–1766.

Domine, F., M. Belke-Brea, D. Sarrazin, L. Arnaud, M. Barrere and M. Poirier. 2018. Soil moisture, wind speed and depth hoar formation in the Arctic snowpack. *Journal Of Glaciology*, **64**(248), 990–1002.

Gaillardet, J. and 148 others. 2018. OZCAR: The French Network of Critical Zone Observatories. *Vadose Zone Journal*, **17**(1).

Kokhanovsky, A. and 8 others. 2018. On the reflectance spectroscopy of snow. *Cryosphere*, **12**(7), 2371–2382.

Le Meur, E. and 7 others. 2018. Spatial and temporal distributions of surface mass balance between Concordia and Vostok stations, Antarctica, from combined radar and ice core data: first results and detailed error analysis. *Cryosphere*, **12**(5), 1831–1850.

Touzeau, A., A. Landais, S. Morin, L. Arnaud and G. Picard. 2018. Numerical experiments on vapor diffusion in polar snow and firn and its impact on isotopes using the multi-layer energy balance model Crocus in SURFEX v8.0. *Geoscientific Model Development*, **11**(6), 2393–2418.

Vincent, C., M. Dumont, D. Six, F. Brun, G. Picard and L. Arnaud. 2018. Why do the dark and light ogives of Forbes bands have similar surface mass balances? *Journal Of Glaciology*, **64**(244), 236–246.

2017

Breant, C., P. Martinerie, A. Orsi, L. Arnaud and A. Landais. 2017. Modelling firn thickness evolution during the last deglaciation: constraints on sensitivity to temperature and impurities. *Climate Of The Past*, **13**(7), 833–853.

Dumont, M. and 7 others. 2017. In situ continuous visible and near-infrared spectroscopy of an alpine snowpack. *Cryosphere*, **11**(3), 1091–1110.

Landais, A. and 14 others. 2017. Surface studies of water isotopes in Antarctica for quantitative interpretation of deep ice core data. *Comptes Rendus Geoscience*, **349**(4), 139–150.

Leduc-Leballeur, M. and 6 others. 2017. Influence of snow surface properties on L-band brightness temperature at Dome C, Antarctica. *Remote Sensing Of Environment*, **199**, 427–436.

Tuzet, F. and 9 others. 2017. A multilayer physically based snowpack model simulating direct and indirect radiative impacts of light-absorbing impurities in snow. *Cryosphere*, **11**(6), 2633–2653.

2016

Casado, M. and 12 others. 2016. Continuous measurements of isotopic composition of water vapour on the East Antarctic Plateau. *Atmospheric Chemistry And Physics*, **16**(13), 8521–8538.

Picard, G., L. Arnaud, J.M. Panel and S. Morin. 2016. Design of a scanning laser meter for monitoring the spatio-temporal evolution of snow depth and its application in the Alps and in Antarctica. *Cryosphere*, **10**(4), 1495–1511.

Picard, G., Q. Libois and L. Arnaud. 2016. Refinement of the ice absorption spectrum in the visible using radiance profile measurements in Antarctic snow. *Cryosphere*, **10**(6), 2655–2672.

Picard, G., Q. Libois, L. Arnaud, G. Verin and M. Dumont. 2016. Development and calibration of an automatic spectral albedometer to estimate near-surface snow SSA time series. *Cryosphere*, **10**(3), 1297–1316.

Weiss, J., V. Pellissier, D. Marsan, L. Arnaud and F. Renard. 2016. Cohesion versus friction in controlling the long-term strength of a self-healing experimental fault. *Journal Of Geophysical Research-Solid Earth*, **121**(12), 8523–8547.

2015

Domine, F., M. Barrere, D. Sarrazin, S. Morin and L. Arnaud. 2015. Automatic monitoring of the effective thermal conductivity of snow in a low-Arctic shrub tundra. *Cryosphere*, **9**(3), 1265–1276.

Leduc-Leballeur, M. and 6 others. 2015. Modeling L-Band Brightness Temperature at Dome C in Antarctica and Comparison With SMOS Observations. *Ieee Transactions On Geoscience And Remote Sensing*, **53**(7), 4022–4032.

Libois, Q. and 6 others. 2015. Summertime evolution of snow specific surface area close to the surface on the Antarctic Plateau. *Cryosphere*, **9**(6), 2383–2398.

Picard, G., F. Domine, G. Krinner, L. Arnaud, Q. Libois and S. Morin. 2015. La taille des grains de neige et son influence sur le climat antarctique. *La Météorologie*, **91**, 39–46.

2014

Carmagnola, C.M. and 7 others. 2014. Implementation and evaluation of prognostic representations of the optical diameter of snow in the SURFEX/ISBA-Crocus detailed snowpack model. *Cryosphere*, **8**(2), 417–437.

Freville, H. and 7 others. 2014. Using MODIS land surface temperatures and the Crocus snow model to understand the warm bias of ERA-Interim reanalyses at the surface in Antarctica. *Cryosphere*, **8**(4), 1361–1373.

Libois, Q., G. Picard, L. Arnaud, S. Morin and E. Brun. 2014. Modeling the impact of snow drift on the decameter-scale variability of snow properties on the Antarctic Plateau. *Journal Of Geophysical Research-Atmospheres*, **119**(20), 11662–11681.

Libois, Q. and 7 others. 2014. Experimental determination of the absorption enhancement parameter of snow. *Journal Of Glaciology*, **60**(222), 714–724.

Picard, G., A. Royer, L. Arnaud and M. Fily. 2014. Influence of meter-scale wind-formed features on the variability of the microwave brightness temperature around Dome C in Antarctica. *Cryosphere*, **8**(3), 1105–1119.

2013

Carmagnola, C.M. and 10 others. 2013. Snow spectral albedo at Summit, Greenland: measurements and numerical simulations based on physical and chemical properties of the snowpack. *Cryosphere*, 7(4), 1139–1160.

Champollion, N., G. Picard, L. Arnaud, E. Lefebvre and M. Fily. 2013. Hoar crystal development and disappearance at Dome C, Antarctica: observation by near-infrared photography and passive microwave satellite. *Cryosphere*, 7(4), 1247–1262.

Libois, Q. and 6 others. 2013. Influence of grain shape on light penetration in snow. *Cryosphere*, 7(6), 1803–1818.

2012

Landais, A. and 11 others. 2012. Towards orbital dating of the EPICA Dome C ice core using delta O-2/N-2. *Climate Of The Past*, 8(1), 191–203.

Montagnat, M. and 6 others. 2012. Measurements and numerical simulation of fabric evolution along the Tabs Dome ice core, Antarctica. *Earth And Planetary Science Letters*, 357, 168–178.

Picard, G., F. Domine, G. Krinner, L. Arnaud and E. Lefebvre. 2012. Inhibition of the positive snow-albedo feedback by precipitation in interior Antarctica. *Nature Climate Change*, 2(11), 795–798.

Verfaillie, D. and 6 others. 2012. Snow accumulation variability derived from radar and firn core data along a 600 km transect in Adelie Land, East Antarctic plateau. *Cryosphere*, 6(6), 1345–1358.

2011

Arnaud, L. and 7 others. 2011. Measurement of vertical profiles of snow specific surface area with a 1 cm resolution using infrared reflectance: instrument description and validation. *J. Glaciol.*, 57(201), 17–29.

Brucker, L. and 7 others. 2011. Modeling time series of microwave brightness temperature at Dome C, Antarctica, using vertically resolved snow temperature and microstructure measurements. *J. Glaciol.*, 57(201), 171–182.

Brun, E. and 12 others. 2011. Snow/atmosphere coupled simulation at Dome C, Antarctica. *Journal Of Glaciology*, 57(204), 721–736.

Favier, V., C. Agosta, C. Genthon, L. Arnaud, A. Trouvillez and H. Gallee. 2011. Modeling the mass and surface heat budgets in a coastal blue ice area of Adelie Land, Antarctica. *Journal Of Geophysical Research-Earth Surface*, 116, F03017.

Gallet, J.C., F. Domine, L. Arnaud, G. Picard and J. Savarino. 2011. Vertical profile of the specific surface area and density of the snow at Dome C and on a transect to Dumont D'Urville, Antarctica - albedo calculations and comparison to remote sensing products. *Cryosphere*, 5(3), 631–649.

Montagnat, M., J.R. Blackford, S. Piazzolo, L. Arnaud and R.A. Lebensohn. 2011. Measurements and full-field predictions of deformation heterogeneities in ice. *Earth And Planetary Science Letters*, 305(1-2), 153–160.

2010

Langlois, A. and 8 others. 2010. On the relationship between snow grain morphology and in-situ near infrared calibrated reflectance photographs. *Cold Reg. Sci. Tech.*, **61**(1), 34–42.

Morin, S., F. Domine, L. Arnaud and G. Picard. 2010. In-situ monitoring of the time evolution of the effective thermal conductivity of snow. *Cold Reg. Sci. Tech.*, **64**(2), 73–80.

2009

Fain, X. and 10 others. 2009. Polar firn air reveals large-scale impact of anthropogenic mercury emissions during the 1970s. *Proc. Natl. Acad. Sci. U. S. A.*, **106**(38), 16114–16119.

Picard, G., L. Arnaud, F. Domine and M. Fily. 2009. Determining snow specific surface area from near-infrared reflectance measurements: Numerical study of the influence of grain shape. *Cold Reg. Sci. Tech.*, **56**(1), 10–17.

2008

Fain, X. and 9 others. 2008. Mercury in the snow and firn at Summit Station, Central Greenland, and implications for the study of past atmospheric mercury levels. *Atmos. Chem. Phys.*, **8**(13), 3441–3457.

2002

Weiss, J., J. Vidot, M. Gay, L. Arnaud, P. Duval and J.R. Petit. 2002. *Dome Concordia ice microstructure: impurities effect on grain growth*. Int Glaciological Soc.

2000

Arnaud, L., J.M. Barnola and P. Duval. 2000. Physical modeling of the densification of snow/firn and ice in the upper part of polar ice sheets. In Hondoh, T., ed. *in Physics of Ice Core Records*. Hokkaido, Hokkaido University Press.

Arnaud, L., J. Weiss, M. Gay and P. Duval. 2000. *Shallow-ice microstructure at Dome Concordia, Antarctica*. Int Glaciological Soc.

Duval, P., L. Arnaud, O. Brissaud, M. Montagnat and S. de la Chapelle. 2000. *Deformation and recrystallization processes of ice from polar ice sheets*. Int Glaciological Soc.

Fabre, A., J.M. Barnola, L. Arnaud and J. Chappellaz. 2000. Determination of gas diffusivity in polar firn: Comparison between experimental measurements and inverse modeling. *Geophys. Res. Lett.*, **27**(4), 557–560.

1998

Arnaud, L., M. Gay, J.M. Barnola and P. Duval. 1998. Imaging of firn and bubbly ice in coaxial reflected light: a new technique for the characterization of these porous media. *Journal Of Glaciology*, **44**(147), 326–332.

Arnaud, L., V.Y. Lipenkov, J.M. Barnola, M. Gay and P. Duval. 1998. Modelling of the densification of polar firn ; characterization of the snow-firn transition. *Annals of Glaciology*, **26**, 39–44.

1997

Arnaud, L. 1997. *Modélisation de la transformation de la neige en glace à la surface des calottes polaires ; Etude du transport des gaz dans ces milieux poreux*Thèse de l'Université Joseph-Fourier, Grenoble 1. (Ph.D. thesis, .)

Champagnon, B., G. Panczer, B. Chazallon, L. Arnaud, P. Duval and V. Lipenkov. 1997. Nitrogen and oxygen guest molecules in clathrate hydrates: Different sites revealed by Raman spectroscopy. *Journal Of Raman Spectroscopy*, **28**(9), 711–715.

Rommelaere, V., L. Arnaud and J.M. Barnola. 1997. Reconstructing recent atmospheric trace gas concentrations from polar firn and bubbly ice data by inverse methods. *Journal Of Geophysical Research-Atmospheres*, **102**(D25), 30069–30083.

Trudinger, C.M. and 7 others. 1997. Modeling air movement and bubble trapping in firn. *Journal Of Geophysical Research-Atmospheres*, **102**(D6), 6747–6763.

1996

Gay, M., L. Arnaud and M. Fily. 1996. Application du traitement d'images pour la détermination des propriétés de la structure du névé. *Euromech 350*. Carcans. (Image analysis, porous materials and physical properties.)