

Stanford



Dustin Schroeder

Associate Professor of Geophysics, of Electrical Engineering and Senior Fellow at the Woods Institute for the Environment

Curriculum Vitae available Online

Bio

BIO

My research focuses on advancing the scientific and technical foundations of geophysical ice penetrating radar and its use in observing and understanding the interaction of ice and water in the solar system. I am primarily interested in the subglacial and englacial conditions of rapidly changing ice sheets and their contribution to global sea level rise. However, a growing secondary focus of my work is the exploration of icy moons. I am also interested in the development and application of science-optimized geophysical radar systems. I consider myself a radio glaciologist and strive to approach problems from both an earth system science and a radar system engineering perspective. I am actively engaged with the flow of information through each step of the observational science process; from instrument and experiment design, through data processing and analysis, to modeling and inference. This allows me to draw from a multidisciplinary set of tools to test system-scale and process-level hypotheses. For me, this deliberate integration of science and engineering is the most powerful and satisfying way to approach questions in Earth and planetary science.

ACADEMIC APPOINTMENTS

- Associate Professor, Geophysics
- Associate Professor, Electrical Engineering
- Senior Fellow, Stanford Woods Institute for the Environment
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)

ADMINISTRATIVE APPOINTMENTS

- Bass University Fellow in Undergraduate Education, Stanford University, (2023- present)
- Associate Chair, Department of Geophysics, Stanford University, (2023- present)
- Associate Professor, Department of Geophysics, Stanford University, (2022- present)
- Associate Professor, Department of Electrical Engineering, Stanford University, (2022- present)
- Senior Fellow, Stanford Woods Institute for the Environment, (2022- present)
- Senior Member, Kavli Institute for Particle Astrophysics and Cosmology, (2021- present)
- Faculty Affiliate, Stanford Institute for Human-Centered Artificial Intelligence, (2020- present)
- Faculty Affiliate, Stanford Data Science, (2022- present)
- Assistant Professor, Department of Geophysics, Stanford University, (2016-2022)
- Assistant Professor (by courtesy), Department of Electrical Engineering, Stanford University, (2017-2022)
- Center Fellow (by courtesy), Stanford Woods Institute for the Environment, (2020-2022)
- Faculty Affiliate, Stanford Woods Institute for the Environment, (2016-2020)

- Radar Systems Engineer, Jet Propulsion Laboratory, California Institute of Technology, (2014-2016)

HONORS AND AWARDS

- Distinguished Service Award, National Science Olympiad (2022)
- Symposium Prize Paper Award, IEEE Geoscience and Remote Sensing Society (2021)
- Excellence in Teaching Award, Stanford School of Earth, Energy, and Environmental Sciences (2020)
- Senior Member, Institute of Electrical and Electronics Engineers (2019)
- CAREER Award, National Science Foundation (2018)
- LInC Fellow, Stanford Woods Institute for the Environment (2018)
- Fredrick E. Terman Fellowship, Stanford University (2016)
- Science Team Member, Mini-RF Radar, Lunar Reconnaissance Orbiter, NASA (2016)
- Science Team Member, REASON Radar Sounder, Europa Mission, NASA (2015)
- JPL Team Award, Europa Mission Instrument Proposal (2015)
- Best Graduate Student Paper Award, Jackson School of Geosciences (2014)
- Heart of Gold Award for Service to Science Education, National Science Olympiad (2014)
- Best Ph.D. Student Poster Award, Jackson School of Geosciences (2013)
- Best Ph.D. Student Speaker Award, Jackson School of Geosciences (2013)
- NASA Group Achievement Award, Operation Ice Bridge (2012)
- David Brunton Jr. Fellowship, University of Texas Graduate School (2012)
- Gale White Fellowship, University of Texas Institute for Geophysics (2012)
- Antarctic Service Medal, National Science Foundation (2011)
- The Friar Society, University of Texas (2010)
- Graduate Research Fellowship Program, National Science Foundation (2009)
- Recruiting Fellowship, University of Texas Graduate School (2008)
- Thelma Johnson Showalter Prize, Bucknell University (2007)
- Phi Beta Kappa, Bucknell University (2007)
- Tau Beta Pi, Bucknell University (2006)
- Sigma Pi Sigma, Bucknell University (2006)
- Meritorious Winner, COMAP Mathematical Contest in Modeling (2005)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Board Member, California Council on Science and Technology (2023 - present)
- Co-Chair, Instruments & Future Technologies Committee, IEEE GRSS (2021 - present)
- Associate Editor, IEEE Transactions on Geoscience and Remote Sensing (2020 - present)
- Council Member, International Glaciological Society (2019 - present)
- Scientific Editor, Journal of Glaciology (2019 - present)
- Member, Interiors Working Group, Europa Mission, NASA (2015 - present)
- Chair, National Science Olympiad Earth and Space Science Committee (2014 - present)
- Co-Chair, Interiors Working Group, Europa Clipper Mission, NASA (2020 - 2023)
- Co-Lead, Active Microwave - Radar and SAR Working Group, Instruments & Future Technologies Comm. IEEE GRSS (2020 - 2023)

- Senator, Stanford Faculty Senate (2018 - 2022)
- Member, Solid Earth Response and influence on Cryosphere Evolution Steering Committee (2016 - 2022)
- Lead, Passive Sounding Working Group, Radar for Icy Moon Exploration, ESA (2015 - 2018)
- Member, International Glaciological Society (2008 - present)
- Member, American Geophysical Union (2008 - present)
- Member, IEEE Antennas and Propagation Society (2008 - present)
- Member, Society of Exploration Geophysicists (2008 - present)
- Member, IEEE Geoscience and Remote Sensing Society (2008 - present)

PROFESSIONAL EDUCATION

- Ph.D., University of Texas at Austin , Geophysics (2014)
- B.S.E.E., Bucknell University , Electrical Engineering (2007)
- B.A., Bucknell University , Physics (2007)

LINKS

- Long Format CV: https://www.dropbox.com/s/4lsucwmryfd6l96/schroeder_cv_long.pdf?dl=0
- Stanford Radio Glaciology: <https://www.radioglaciology.com/>

Teaching

COURSES

2023-24

- Citizenship in the 21st Century: COLLEGE 102 (Win)
- Radio Glaciology: GEOPHYS 385G (Aut, Win, Spr, Sum)
- Signals and Systems II: EE 102B (Spr)

2022-23

- Introduction to Radar Remote Sensing: EE 258, GEOPHYS 258J (Win)
- Radio Glaciology: GEOPHYS 385G (Win, Spr, Sum)
- Signal Processing and Linear Systems II: EE 102B (Spr)

2021-22

- Citizenship in the 21st Century: COLLEGE 102 (Win)
- Introduction to the Foundations of Contemporary Geophysics: EARTHSYS 110, GEOPHYS 110 (Win)
- Radio Glaciology: GEOPHYS 385G (Aut, Win, Spr, Sum)

2020-21

- Introduction to the Foundations of Contemporary Geophysics: EARTHSYS 110, GEOPHYS 110 (Aut)
- Radio Glaciology: GEOPHYS 385G (Aut, Win, Spr, Sum)
- Senior Seminar: Issues in Earth Sciences: GEOPHYS 199 (Aut)
- The Space Mission to Europa: GEOPHYS 54N (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Muhammad Abdulla, Adam Dai, Andrew Hennig, Paul Summers, Elizabeth Wig

Postdoctoral Faculty Sponsor

Natalie Wolfenbarger

Doctoral Dissertation Advisor (AC)

Anna Broome, Eliza Dawson, Danny May, Thomas Teisberg

Master's Program Advisor

Jack Glad

Doctoral (Program)

Chiadika Obinwa, Dean Wright

Publications

PUBLICATIONS

● **Feasibility of Passive Sounding of Uranian Moons Using Uranian Kilometric Radiation** *EARTH AND SPACE SCIENCE*

Romero-Wolf, A., Steinbrugge, G., Castillo-Rogez, J., Cochrane, C. J., Nordheim, T. A., Mitchell, K. L., Wolfenbarger, N. S., Schroeder, D. M., Peters, S. 2024; 11 (2)

● **Heterogeneous Basal Thermal Conditions Underpinning the Adélie-George V Coast, East Antarctica** *GEOPHYSICAL RESEARCH LETTERS*

Dawson, E. J., Schroeder, D. M., Chu, W., Mantelli, E., Seroussi, H. 2024; 51 (2)

● **Antarctic Sedimentary Basins and Their Influence on Ice-Sheet Dynamics** *REVIEWS OF GEOPHYSICS*

Aitken, A. A., Li, L., Kulessa, B., Schroeder, D., Jordan, T. A., Whittaker, J. M., Anandakrishnan, S., Dawson, E. J., Wiens, D. A., Eisen, O., Siegert, M. J. 2023; 61 (3)

● **Exploring the Interior of Europa with the Europa Clipper.** *Space science reviews*

Roberts, J. H., McKinnon, W. B., Elder, C. M., Tobie, G., Biersteker, J. B., Young, D., Park, R. S., Steinbrügge, G., Nimmo, F., Howell, S. M., Castillo-Rogez, J. C., Cable, M. L., Abrahams, et al 2023; 219 (6): 46

● **Antarctic Bedmap data: Findable, Accessible, Interoperable, and Reusable (FAIR) sharing of 60 years of ice bed, surface, and thickness data** *EARTH SYSTEM SCIENCE DATA*

Fremand, A. C., Fretwell, P., Bodart, J. A., Pritchard, H. D., Aitken, A., Bamber, J. L., Bell, R., Bianchi, C., Bingham, R. G., Blankenship, D. D., Casassa, G., Catania, G., Christianson, et al 2023; 15 (7): 2695-2710

● **The Phase Response of a Rough Rectangular Facet for Radar Sounder Simulations of Both Coherent and Incoherent Scattering** *RADIO SCIENCE*

Gerekos, C., Haynes, M. S., Schroeder, D. M., Blankenship, D. D. 2023; 58 (6)

● **Paths forward in radioglaciology** *ANNALS OF GLACIOLOGY*

Schroeder, D. M.
2023

● **Radar Attenuation in Enceladus' Ice Shell: Obstacles and Opportunities for Constraining Shell Thickness, Chemistry, and Thermal Structure** *JOURNAL OF GEOPHYSICAL RESEARCH-PLANETS*

Soucek, O., Behounkova, M., Schroeder, D. M., Wolfenbarger, N. S., Kalousova, K., Steinbrugge, G., Soderlund, K. M. 2023; 128 (2)

● **DEM GENERATOR FROM SINGLE SWATH RADARGRAMS**

Garcia, M., Schroeder, D. M., Bovolo, F., IEEE
IEEE.2023: 2588-2591

● **Bistatic Radar Tomography of Shear Margins: Simulated Temperature and Basal Material Inversions** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*

Bienert, N., Schroeder, D. M., Summers, P.

2023; 61

- **Joint Active and Passive Microwave Thermometry of Ice Sheets** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*
Broome, A. L., Schroeder, D. M., Johnson, J. T.
2023; 61
- **DIGITAL TOOLS FOR ANALOG DATA: RECONSTRUCTING THE FIRST ICE-PENETRATING RADAR SURVEYS OF ANTARCTICA AND GREENLAND**
Teisberg, T. O., Schroeder, D. M., IEEE
IEEE.2023: 44-47
- **FIRST RESULTS FROM MAPPERR: THE MULTI-FREQUENCY ACTIVE PASSIVE POLAR EXPLORATION RADAR-RADIOMETER**
Broome, A. L., Schroeder, D. M., Johnson, J. T., IEEE
IEEE.2023: 36-39
- **SOURCE AVAILABILITY AND BANDWIDTH CONSTRAINTS ON TERRESTRIAL PASSIVE RADAR EXPERIMENTS USING JOVIAN DECAMETRIC RADIATION**
Nessly, K., Peters, S., Smithtro, C., Steinbrfigge, G., Schroeder, D., Romero-Wolf, A., IEEE
IEEE.2023: 4214-4217
- **Shallow Fracture Buffers High Elevation Runoff in Northwest Greenland** *GEOPHYSICAL RESEARCH LETTERS*
Culberu, R., Chu, W., Schroeder, D. M.
2022; 49 (23)
- **Ice mass loss sensitivity to the Antarctic ice sheet basal thermal state.** *Nature communications*
Dawson, E. J., Schroeder, D. M., Chu, W., Mantelli, E., Seroussi, H.
2022; 13 (1): 4957
- **Persistent, extensive channelized drainage modeled beneath Thwaites Glacier, West Antarctica** *CRYOSPHERE*
Hager, A. O., Hoffman, M. J., Price, S. F., Schroeder, D. M.
2022; 16 (9): 3575-3599
- **Radar Characterization of Ice Crystal Orientation Fabric and Anisotropic Viscosity Within an Antarctic Ice Stream** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*
Jordan, T. M., Martin, C., Brisbourne, A. M., Schroeder, D. M., Smith, A. M.
2022; 127 (6)
- **Double ridge formation over shallow water sills on Jupiter's moon Europa.** *Nature communications*
Culberg, R., Schroeder, D. M., Steinbrugge, G.
2022; 13 (1): 2007
- **An empirical algorithm to map perennial firn aquifers and ice slabs within the Greenland Ice Sheet using satellite L-band microwave radiometry** *CRYOSPHERE*
Miller, J. Z., Culberg, R., Long, D. G., Shuman, C. A., Schroeder, D. M., Brodzik, M. J.
2022; 16 (1): 103-125
- **Post-Processing Synchronized Bistatic Radar for Long Offset Glacier Sounding** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*
Bienert, N. L., Schroeder, D. M., Peters, S. T., MacKie, E. J., Dawson, E. J., Siegfried, M. R., Sanda, R., Christoffersen, P.
2022; 60
- **SAR FOCUSING OF MOBILE APRES SURVEYS**
Kapai, S., Schroeder, D., Broome, A., Young, T., Stewart, C., IEEE
IEEE.2022: 1688-1691
- **INVERTING FOR FIRN AQUIFER PROPERTIES FROM ICE-PENETRATING RADAR DATA**
Culberg, R., Schroeder, D. M., IEEE
IEEE.2022: 1332-1335
- **QUANTIFYING THE COMPLIMENTARY SENSITIVITIES OF ACTIVE AND PASSIVE MICROWAVE MEASUREMENTS TO ICE-SHEET THERMAL SIGNATURES**
Broome, A. L., Schroeder, D. M., Johnson, J. T., IEEE

IEEE.2022: 8028-8031

● **SFMCW ORTHOGONAL WAVE BEAMFORMING CONCEPT FOR DISTRIBUTED ORBITAL SOUNDING**

Bienert, N., Haynes, M. S., Schroeder, D. M., Beauchamp, R. M., IEEE
IEEE.2022: 84-87

● **DEVELOPMENT OF A UAV-BORNE PULSED ICE-PENETRATING RADAR SYSTEM**

Teisberg, T. O., Schroeder, D. M., Broome, A. L., Lurie, F., Woo, D., IEEE
IEEE.2022: 7405-7408

● **EMPIRICAL CHARACTERIZATION OF SURFACE CREVASSÉ CLUTTER IN MULTI-FREQUENCY AIRBORNE ICE-PENETRATING RADAR DATA**

Altenburg, M., Culberg, R., Schroeder, D. M., IEEE
IEEE.2022: 1684-1687

● **PROCESSING AND DETECTING ARTIFACTS IN MULTI-INPUT MULTI-OUTPUT PHASE-SENSITIVE ICE PENETRATING RADAR DATA**

McLeod, A. A., Peters, S. T., Culberg, R., Schroeder, D. M., Bienert, N. L., Chu, W., Young, T., Christoffersen, P., IEEE
IEEE.2022: 3786-3789

● **SIDE-FACING UHF-BAND RADAR SYSTEM TO MONITOR TREE WATER STATUS**

Rao, K., Ulloa, Y. J., Bienert, N., Chiaro, N. R., Holtzman, N. M., Quetin, G. R., Peters, S. T., Winstein, K., Castelletti, D., Schroeder, D. M., Konings, A. G., IEEE
IEEE.2022: 5559-5562

● **REVISITING THE LIMITS OF SPATIAL COHERENCE FOR PASSIVE RADAR SOUNDING USING RADIO-ASTRONOMICAL SOURCES**

Peters, S. T., Roberts, T., Nessly, K., Schroeder, D. M., Romero-Wolf, A., IEEE
IEEE.2022: 3880-3883

● **Altimetry Measurements From Planetary Radar Sounders and Application to SHARAD on Mars** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*

Steinbrugge, G., Haynes, M. S., Schroeder, D. M., Scanlan, K. M., Stark, A., Young, D. A., Grima, C., Kempf, S., Ng, G., Buhl, D., Voigt, J. C., Roatsch, T., Blankenship, et al
2022; 60

● **Radiometric analysis of digitized Z-scope records in archival radar sounding film** *JOURNAL OF GLACIOLOGY*

Schroeder, D. M., Broome, A. L., Conger, A., Lynch, A., Mackie, E. J., Tarzona, A.
2021

● **Passive Synthetic Aperture Radar Imaging Using Radio-Astronomical Sources** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*

Peters, S. T., Schroeder, D. M., Haynes, M. S., Castelletti, D., Romero-Wolf, A.
2021; 59 (11): 9144-9159

● **A detailed radiostratigraphic data set for the central East Antarctic Plateau spanning from the Holocene to the mid-Pleistocene** *EARTH SYSTEM SCIENCE DATA*

Cavitte, M. P., Young, D. A., Mulvaney, R., Ritz, C., Greenbaum, J. S., Ng, G., Kempf, S. D., Quartini, E., Muldoon, G. R., Paden, J., Frezzotti, M., Roberts, J. L., Tozer, et al
2021; 13 (10): 4759-4777

● **Alternatives to Liquid Water Beneath the South Polar Ice Cap of Mars** *GEOPHYSICAL RESEARCH LETTERS*

Schroeder, D. M., Steinbrugge, G.
2021; 48 (19)

● **Multisystem Synthesis of Radar Sounding Observations of the Amundsen Sea Sector From the 2004-2005 Field Season.** *Journal of geophysical research. Earth surface*

Chu, W., Hilger, A. M., Culberg, R., Schroeder, D. M., Jordan, T. M., Seroussi, H., Young, D. A., Blankenship, D. D., Vaughan, D. G.
2021; 126 (10): e2021JF006296

● **Permanent Scatterers in Repeat-Pass Airborne VHF Radar Sounder for Layer-Velocity Estimation** *IEEE GEOSCIENCE AND REMOTE SENSING LETTERS*

Castelletti, D., Schroeder, D. M., Jordan, T. M., Young, D.
2021; 18 (10): 1766-1770

- **Multisystem Synthesis of Radar Sounding Observations of the Amundsen Sea Sector From the 2004-2005 Field Season** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*
Chu, W., Hilger, A. M., Culberg, R., Schroeder, D. M., Jordan, T. M., Seroussi, H., Young, D. A., Blankenship, D. D., Vaughan, D. G.
2021; 126 (10)
- **Conditioning Jovian Burst Signals for Passive Sounding Applications** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*
Roberts, T., Romero-Wolf, A., Bruzzone, L., Carrer, L., Peters, S., Schroeder, D. M.
2021
- **Five decades of radioglaciology (vol 61, pg 1, 2020)** *ANNALS OF GLACIOLOGY*
Schroeder, D. M., Bingham, R. G., Blankenship, D. D., Christianson, K., Eisen, O., Flowers, G. E., Karlsson, N. B., Koutnik, M. R., Paden, J. D., Siegert, M. J.
2021; 62 (85-86): 390
- **Rapid and accurate polarimetric radar measurements of ice crystal fabric orientation at the Western Antarctic Ice Sheet (WAIS) Divide ice core site** *CRYOSPHERE*
Young, T., Martin, C., Christoffersen, P., Schroeder, D. M., Tulaczyk, S. M., Dawson, E. J.
2021; 15 (8): 4117-4133
- **A Radiometrically Precise Multi-Frequency Ice-Penetrating Radar Architecture** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*
Broome, A. L., Schroeder, D. M.
2021
- **Glaciological Monitoring Using the Sun as a Radio Source for Echo Detection** *GEOPHYSICAL RESEARCH LETTERS*
Peters, S. T., Schroeder, D. M., Chu, W., Castelletti, D., Haynes, M. S., Christoffersen, P., Romero-Wolf, A.
2021; 48 (14)
- **Radar-Sounding Characterization of the Subglacial Groundwater Table Beneath Hiawatha Glacier, Greenland** *GEOPHYSICAL RESEARCH LETTERS*
Bessette, J. T., Schroeder, D. M., Jordan, T. M., MacGregor, J. A.
2021; 48 (10)
- **Inferring Ice Fabric From Birefringence Loss in Airborne Radargrams: Application to the Eastern Shear Margin of Thwaites Glacier, West Antarctica** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*
Young, T. J., Schroeder, D. M., Jordan, T. M., Christoffersen, P., Tulaczyk, S. M., Culberg, R., Bienert, N. L.
2021; 126 (5)
- **Analysis of Temporal and Structural Characteristics of Jovian Radio Emissions for Passive Radar Sounding of Jupiters Icy Moons** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*
Carrer, L., Schroeder, D. M., Romero-Wolf, A., Ries, P. A., Bruzzone, L.
2021; 59 (5): 3857-3874
- **Extreme melt season ice layers reduce firn permeability across Greenland.** *Nature communications*
Culberg, R., Schroeder, D. M., Chu, W.
2021; 12 (1): 2336
- **Stochastic modeling of subglacial topography exposes uncertainty in water routing at Jakobshavn Glacier** *JOURNAL OF GLACIOLOGY*
MacKie, E. J., Schroeder, D. M., Zuo, C., Yin, Z., Caers, J.
2021; 67 (261): 75–83
- **Challenges on Mercury's Interior Structure Posed by the New Measurements of its Obliquity and Tides** *GEOPHYSICAL RESEARCH LETTERS*
Steinbrugge, G., Dumberry, M., Rivoldini, A., Schubert, G., Cao, H., Schroeder, D., Soderlund, K.
2021; 48 (3)
- **Interpreting englacial layer deformation in the presence of complex ice flow history with synthetic radargrams** *ANNALS OF GLACIOLOGY*
Elsworth, C. W., Schroeder, D. M., Siegfried, M. R.
2020; 61 (81): 206–13
- **Automated detection and characterization of Antarctic basal units using radar sounding data: demonstration in Institute Ice Stream, West Antarctica** *ANNALS OF GLACIOLOGY*
Goldberg, M. L., Schroeder, D. M., Castelletti, D., Mantelli, E., Ross, N., Siegert, M. J.
2020; 61 (81): 242–48

- **Five decades of radioglaciology** *ANNALS OF GLACIOLOGY*
Schroeder, D. M., Bingham, R. G., Blankenship, D. D., Christianson, K., Eisen, O., Flowers, G. E., Karlsson, N. B., Koutnik, M. R., Paden, J. D., Siegert, M. J.
2020; 61 (81): 1–13
- **A comparison of automated approaches to extracting englacial-layer geometry from radar data across ice sheets** *ANNALS OF GLACIOLOGY*
Delf, R., Schroeder, D. M., Curtis, A., Giannopoulos, A., Bingham, R. G.
2020; 61 (81): 234–41
- **Reflections on the anomalous ANITA events: the Antarctic subsurface as a possible explanation** *ANNALS OF GLACIOLOGY*
Shoemaker, I. M., Kusenko, A., Kuipers Munneke, P., Romero-Wolf, A., Schroeder, D. M., Siegert, M. J.
2020; 61 (81): 92–98
- **Geospatial simulations of airborne ice-penetrating radar surveying reveal elevation under-measurement bias for ice-sheet bed topography** *ANNALS OF GLACIOLOGY*
Bartlett, O. T., Palmer, S. J., Schroeder, D. M., MacKie, E. J., Barrows, T. T., Graham, A. C.
2020; 61 (81): 46–57
- **Estimation of ice fabric within Whillans Ice Stream using polarimetric phase-sensitive radar sounding** *ANNALS OF GLACIOLOGY*
Jordan, T. M., Schroeder, D. M., Elsworth, C. W., Siegfried, M. R.
2020; 61 (81): 74–83
- **Assessing the detectability of Europa's eutectic zone using radar sounding** *Icarus*
Culha, C., Schroeder, D. M., Jordan, T. M., Haynes, M. S.
2020; 339 (0019-1035)
- **A NARROWBAND MULTI-FREQUENCY RADAR SOUNDING ARCHITECTURE TO CORRECT SUBSURFACE INTERFACE ROUGHNESS EFFECTS**
Broome, A. L., Schroeder, D. M., IEEE
IEEE.2020: 1428-1431
- **GEOSTATISTICALLY SIMULATING SUBGLACIAL TOPOGRAPHY WITH SYNTHETIC TRAINING DATA**
MacKie, E. J., Schroeder, D. M., IEEE
IEEE.2020: 2991-2994
- **STRONG POTENTIAL FOR THE DETECTION OF REFROZEN ICE LAYERS IN GREENLAND'S FIRN BY AIRBORNE RADAR SOUNDING**
Culberg, R., Schroeder, D. M., IEEE
IEEE.2020: 7033-7036
- **PATHWAYS TO MULTITEMPORAL RADAR SOUNDING IN TERRESTRIAL GLACIOLOGY**
Schroeder, D. M., IEEE
IEEE.2020: 3731-3734
- **PROCESSING-BASED SYNCHRONIZATION APPROACH FOR BISTATIC RADAR GLACIAL TOMOGRAPHY**
Bienert, N. L., Schroeder, D. M., Peters, S. T., Siegfried, M. R., IEEE
IEEE.2020: 1420-1423
- **Firn Clutter Constraints on the Design and Performance of Orbital Radar Ice Sounders** *IEEE Transactions on Geoscience and Remote Sensing*
Culberg, R., Schroeder, D. M.
2020: 1-18
- **Passive radio sounding to correct for Europa's ionospheric distortion of VHF signals** *Planetary and Space Science*
Peters, S. T., Schroeder, D. M., Romero-Wolf, A.
2020
- **Layer optimized SAR processing and slope estimation in radar sounder data** *JOURNAL OF GLACIOLOGY*
Castelletti, D., Schroeder, D. M., Mantelli, E., Hilger, A.
2019; 65 (254): 983–88
- **A subglacial hydrologic drainage hypothesis for silt sorting and deposition during retreat in Pine Island Bay** *ANNALS OF GLACIOLOGY*
Schroeder, D. M., MacKie, E. J., Creyts, T. T., Anderson, J. B.

2019; 60 (80): 14–20

● **Subglacial roughness of the Greenland Ice Sheet: relationship with contemporary ice velocity and geology** *CRYOSPHERE*

Cooper, M. A., Jordan, T. M., Schroeder, D. M., Siegert, M. J., Williams, C. N., Bamber, J. L.

2019; 13 (11): 3093–3115

● **A Polarimetric Coherence Method to Determine Ice Crystal Orientation Fabric From Radar Sounding: Application to the NEEM Ice Core Region** *IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING*

Jordan, T. M., Schroeder, D. M., Castelletti, D., Li, J., Dall, J.

2019; 57 (11): 8641–57

● **Sustained Antarctic Research: A 21st Century Imperative** *ONE EARTH*

Kennicutt, M. C., Bromwich, D., Liggett, D., Njastad, B., Peck, L., Rintoul, S. R., Ritz, C., Siegert, M. J., Aitken, A., Brooks, C. M., Cassano, J., Chaturvedi, S., Chen, et al

2019; 1 (1): 95–113

● **Radar-Detected Englacial Debris in the West Antarctic Ice Sheet** *GEOPHYSICAL RESEARCH LETTERS*

Winter, K., Woodward, J., Ross, N., Dunning, S. A., Hein, A. S., Westoby, M. J., Culberg, R., Marrero, S. M., Schroeder, D. M., Sugden, D. E., Siegert, M. J. 2019

● **Seismology with Dark Data: Image-Based Processing of Analog Records Using Machine Learning for the Rangely Earthquake Control Experiment** *SEISMOLOGICAL RESEARCH LETTERS*

Wang, K., Ellsworth, W. L., Beroza, G. C., Williams, G., Zhang, M., Schroeder, D., Rubinstein, J.

2019; 90 (2): 553–62

● **Doppler-based discrimination of radar sounder target scattering properties: A case study of subsurface water geometry in Europa's ice shell** *Icarus*

Michaelides, R., Schroeder, D. M.

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● **REVISTING THE LIMITS OF AZIMUTH PROCESSING GAIN FOR RADAR SOUNDING**

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