

Oral Publications

Invited Presentations and Keynotes at International Conferences

- Steiner, A. K.**, F. Ladstädter, M. Stocker, M. Schwärz, K. Yessimbet, K. Rac, Advances in using GNSS radio occultation for climate, COSMIC/JCSDA Workshop and IROWG-10, Boulder, CO, USA, September 2024 (keynote).
- Steiner, A. K.**, Radio Occultation for Climate – Wegener Center Perspectives, GPS/MET – COSMIC Anniversary Session, COSMIC/JCSDA Workshop and IROWG-10, Boulder, CO, USA, September 2024.
- Steiner, A. K.**, Observing the atmosphere and climate with GNSS radio occultation, Meteorological Seminar, Meteorologisches Institut, LMU, Munich, Germany, July 2024.
- Steiner, A. K.**, Climate monitoring using GNSS radio occultation, GNSS Remote Sensing Colloquium 2023, UCAR Cosmic, Boulder, CO, USA, June 2023.
- Steiner, A. K.**, Atmospheric climate change – observing variability, trends, and extremes with GNSS RO, DCG Seminar, NCAR, Boulder, CO, USA, July 2023.
- Steiner, A. K.**, F. Ladstädter, and M. Stocker, Temperature changes and trends in the stratosphere from observations, 11th International Workshop on Long-Term Changes and Trends in the Atmosphere – *TRENDS 2022*, Helsinki, Finland, May/June 2022.
- Steiner, A. K.**, F. Ladstädter, and the SPARC ATC Activity, Atmospheric temperature trends from four decades of observations, AGU Fall Meeting 2021, New Orleans, USA (online), December 2021.
- Steiner, A. K.**, Klimaschutz aus naturwissenschaftlicher Sicht – Die Fakten zum Klimawandel, *Österreichische Umweltrechtstage „Klimaschutz im Recht“*, Johannes-Kepler-Universität Linz, September 2021.
- Steiner, A. K.**, Atmospheric climate change – Insights from GNSS RO, *8th International Radio Occultation Working Group Meeting – IROWG-8*, virtual meeting, April 2021.
- Steiner, A. K.** (keynote), GNSS RO for monitoring atmospheric climate change, *EUMETSAT–ROM SAF–C3S Workshop 2020*, online, December 2020.
- Steiner, A. K.** and the SPARC ATC Activity, Observed temperature trends in the troposphere and stratosphere over the last four decades, *5th International Conference on GPS Radio Occultation – ICGPSRO 2020*, Hsinchu, Taiwan (virtual conference), October 2020.
- Steiner, A. K.** and the SPARC ATC Activity, SPARC Activity on Atmospheric Temperature Changes and their Drivers (ATC), *ISSI Team Meeting on Middle Atmosphere Dynamics*, Bern, Switzerland, March 2019.
- Steiner, A. K.**, F. Ladstädter, and the SPARC ATC Activity, Atmospheric temperature trends from observations – an update, AGU Fall Meeting 2018, Washington, D.C., USA, December 2018.
- Steiner, A. K.**, Detection and attribution: trends and extremes (Part II of: Climate change, impacts and attribution of anthropogenic causes: status and challenges by Kirchengast G., A.K. Steiner, D.Maraun), *Climate Change, Responsibility and Liability International Conference*, Graz, November 2018.
- Steiner A. K.**, Klimavariabilität und Trends in der Atmosphäre, *Sitzung 12/18 der Kommission Klima und Luftqualität der Österreichischen Akademie der Wissenschaften*, Wien, Austria, October 2018.
- Steiner A. K.**, F. Ladstädter, and H. Wilhelmsen, Temperature trends and climate variability from GPS RO, radiosondes, and AMSU, *ICGPSRO 2018 – 4th International Conference on GPS Radio Occultation and 11th FORMOSAT-3/COSMIC Data Users' Workshop*, Taipei, Taiwan, April 2018.
- Foelsche* U., G. Kirchengast, J. Danzer, M. Schwärz, **A. K. Steiner**, V. Proschek, B. Angerer, F. Ladstädter, and J. Innerkofler, Studying atmosphere and climate with GNSS RO data: recent results from the Wegener Center, Graz, Austria, *ICGPSRO 2018 – 4th International Conference on GPS Radio Occultation and 11th FORMOSAT-3/COSMIC Data Users' Workshop*, Taipei, Taiwan, April 2018 (*presenter).
- Kirchengast*, G., and **A. K. Steiner**, GNSS radio occultation for climate science: where do we stand and what are key next steps? *SGCS17 - IAG Workshop on Satellite Geodesy for Climate Studies*, Bonn, Germany, September 2017 (*presenter).
- Steiner, A. K.** and the ARSCLiSys group, Atmospheric Climate Monitoring with GNSS Radio Occultation, *14th Annual Meeting Asia Oceania Geosciences Society – AOGS 2017*, Singapore, August 2017.

Steiner, A. K. and the ARSCLiSys group, Recent advances in climate monitoring with GNSS radio occultation capturing atmospheric variability and trends, GC41A-1069, *American Geophysical Union (AGU) Fall Meeting 2016*, San Francisco, CA, USA, December 2016.

Kirchengast*, G., and **A. K. Steiner**, GNSS radio occultation for climate: new results and advances for monitoring variability, trends, and extreme events, *IAG/CPGPS International Conference on GNSS+ (ICG+2016)*, Shanghai, China, July 2016 (*presenter).

Steiner, A. K., Einblicke in unsere Atmosphäre mittels GPS Radio-Okkultation: Klimavariabilität, Trends, und Extremereignisse, *Jahreshauptversammlung der Österreichischen Gesellschaft für Meteorologie*, ZAMG, Wien, Austria, March 2016.

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, L. Brunner, M. Schwaerz, R. Biondi, J. Fritzer, J. Schwarz, U. Foelsche, and G. Kirchengast, Observing climate variability and change with GPS radio occultation, *Our Common Future Under Climate Change – CFCC15*, Paris, France, June 2015.

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, R. Biondi, L. Brunner, G. Kirchengast, and the ARSCLiSys group, Atmospheric variability modes and trends in the UTLS from the RO record, *SPARC Stratospheric Temperature Trends Workshop*, Victoria, BC, Canada, April 2015.

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, M. Schwärz, L. Brunner, T. Rieckh, R. Klingler, R. Biondi, J. Fritzer, J. Schwarz, U. Foelsche, and G. Kirchengast, Observing atmospheric variability, extreme events, and climate change from space with GPS radio occultation, *The Climate Symposium 2014*, Darmstadt, Germany, October 2014.

Steiner, A. K., Climate monitoring with GPS RO – Achievements and challenges, *Eighth FORMOSAT-3/COSMIC Data Users' Workshop*, Boulder, CO, USA, September/October 2014.

Steiner, A. K., Status of the RO record with focus on stratospheric trend analysis, *SPARC Stratospheric Temperature Trends Workshop*, Reading, UK, September 2013.

Steiner, A. K. (keynote), Climate monitoring and change detection with GPS Radio Occultation, *2nd International Conference on GPS Radio Occultation (ICGPSRO)*, Taipeh, Taiwan, May 2013.

Steiner, A. K., GNSS radio occultation – Utility for weather and climate, *First Gfg2 (GNSS for Global Environmental Earth Observation (GEO) and GEOSS) Consultation Workshop*, Oslo, Norway, October 2011.

Steiner, A. K., GPS radio occultation for climate monitoring and change detection: Error characteristics, uncertainty, applications, *Stratospheric Processes And their Role in Climate (SPARC) Temperature Trend Assessment Meeting*, Paris, France, September 2011.

Steiner, A. K., B. C. Lackner, F. Ladstädter, B. Scherllin-Pirscher, G. C. Hegerl, U. Foelsche, and G. Kirchengast, GPS RO for observing atmosphere and climate, *UCAR/COSMIC Seminar*, Boulder, CO, USA, August 2010.

Steiner A. K., B. C. Lackner, F. Ladstädter, G. Kirchengast, B. Pirscher, G. C. Hegerl, and U. Foelsche, GPS radio occultation for climate applications, *Intl. Beacon Satellite Symposium*, Barcelona, Spain, June 2010.

Steiner, A. K. (invited), G. Kirchengast, B. C. Lackner, B. Pirscher, and U. Foelsche, Atmospheric climate change detection based on GPS/Met and CHAMP radio occultation records 1995 to 2007, *Geophysical Research Abstracts*, Vol. 10, EGU2008-A-09177, *European Geosciences Union (EGU) General Assembly 2008*, Vienna, Austria, April 2008.

Steiner, A. K., G. Kirchengast, M. Borsche, and U. Foelsche, A multi-year comparison of lower stratospheric temperatures from CHAMP radio occultation data with MSU/AMSU records, *3rd International Workshop on Occultations for Probing Atmosphere and Climate (OPAC-3)*, Graz, Austria, September 2007.

Steiner, A. K., Climate change monitoring and atmospheric change analysis by radio occultation, *United Nations/Austria/European Space Agency Symposium on "Space Tools and Solutions for Monitoring the Atmosphere in Support of Sustainable Development"*, Graz, Austria, September 2007.

Steiner, A. K., U. Foelsche, A. Gobiet, and G. Kirchengast, Simulation studies on the analysis of radio occultation data, *2nd GRAS SAF User Workshop*, Helsingør, Denmark, June 2003.

Kirchengast, G., U. Foelsche, and **A. K. Steiner***, Climate monitoring using GNSS occultation, From promises via simulation studies to real monitoring and beyond, *4th Oersted International Science Team Conference (OIST-4)*, Copenhagen, Denmark, September 2002 (*presenter).

Steiner, A. K., G. Kirchengast, U. Foelsche, L. Kornblueh, E. Manzini, and L. Bengtsson, GNSS occultation sounding for climate monitoring, *Geophysical Research Abstracts*, Vol. 2, *25th Gen. Assembly of the Europ. Geophys. Society (EGS)*, Nice, France, April 2000.

Presentations as First or Presenting Author at International Conferences

- Steiner, A. K.**, and P. Vergados, Presentation of the recommendations of the IROWG Climate Subgroup, *COSMIC/JCSDA Workshop and IROWG-10*, Boulder, CO, USA, 12–18 September 2024.
- Steiner, A. K.**, F. Ladstädter, M. Stocker, Monitoring atmospheric climate change - Advances with GNSS radio occultation, *WCRP Open Science Conference 2023*, Kigali, Ruanda (hybrid), October 2023 (online attendance).
- Steiner, A. K.**, ATC Activity report 2022/23 – Atmospheric temperature changes and their drivers, *31st SPARC SSG Meeting 2023*, DLR, Oberpfaffenhofen, Germany, July 2023 (online attendance).
- Steiner, A. K.**, GNSS Radio Occultation for climate monitoring, *BOKU-Met Seminar*, University of Natural Resources and Life Sciences, Vienna, November 2022.
- Steiner, A. K.**, F. Ladstädter, M. Stocker, and the SPARC ATC Activity, Observing atmospheric temperature change – New insights with GNSS radio occultation, *SPARC 7th General Assembly*, Multi-hub conference, October 2022 (online attendance).
- Steiner, A. K.**, F. Ladstädter, M. Stocker, and the WEGC RO Team, Observing atmospheric temperature trends and extremes – Advances with GNSS radio occultation, *2nd Climate Observation Conference*, Darmstadt, Germany, October 2022 (online attendance).
- Steiner, A. K.**, F. Ladstädter, and M. Stocker, Observing atmospheric temperature change – Advances with GNSS radio occultation, , Seggau Castle, Austria, September 2022.
- Steiner, A. K.**, and A. Maycock, ATC Activity report – Atmospheric temperature changes and their drivers, *29th SPARC SSG Meeting 2022*, virtual meeting, January 2022.
- Steiner, A. K.**, F. Ladstädter, M. Stocker, H. Wilhelmsen, Satellite observations for detection and attribution of atmospheric temperature change, *WCRP workshop on attribution of multi-annual to decadal changes in the climate system*, virtual conference, September 2021.
- Steiner, A. K.**, Global climate change – detection, attribution and uncertainties, *Winter School - Doctoral Programme Climate Change "Decision Making under Uncertainty in Responding to Climate Change*, DK Climate Change, University of Graz, Graz (online), February 2021.
- Steiner, A. K.**, and A. Maycock, Activity report – Atmospheric temperature changes and their drivers, *28th SPARC SSG Meeting 2021*, virtual meeting, February 2021.
- Steiner, A. K.**, and K. Steininger, Das Wegener Center - von Klimaphysik bis Klimökonomik, *Sitzung 04/2020 der Kommission Klima und Luftqualität der ÖAW (Austrian Academy of Sciences)*, Graz, Austria, January 2020.
- Steiner, A. K.**, F. Ladstädter, M. Stocker, H. Wilhelmsen, M. Gorfer, and G. Kirchengast, Recent advances in atmospheric climate monitoring with GNSS radio occultation, *AGU Fall Meeting 2019*, San Francisco, USA December 2019.
- Steiner, A. K.**, and N. Livesey, Long-term records for climate understanding – summary of SPARC Activity presentations, *SPARC SSG Meeting 2019*, Boulder, CO, USA, December 2019.
- Steiner, A. K.**, F. Ladstädter, and the SPARC ATC Activity, Atmospheric temperature trends from observations – an update on recent advances, *ROM SAF-IROWG 2019*, Elsinore, Denmark September 2019.
- Steiner, A. K.**, F. Ladstädter, and the Wegener Center Team, Temperature trends in the free atmosphere from observations – contributions to the IPCC AR6, *ROM SAF-IROWG 2019*, Elsinore, Denmark September 2019.
- Steiner, A. K.**, F. Ladstädter, H. Wilhelmsen, M. Stocker, and P. Peter, Klimavariabilität und Trends in der freien Atmosphäre aus Beobachtungsdaten, *DACH 2019*, Garmisch-Partenkirchen, Germany, March 2019.
- Unterberger, C., L. Brunner, S. Nabernegg, K. W. Steininger, **A. K. Steiner***, E. Stabentheiner, S. Monschein, H. Truhetz (poster), Spring frost risk for regional apple production under a warmer climate, *DACH 2019*, Garmisch-Partenkirchen, Germany, March 2019 (*presenter).
- Steiner, A. K.**, and A. C. Maycock, Atmospheric temperature changes and their drivers - Activity report, *26th SPARC Scientific Steering Group meeting*, Kyoto, Japan, October 2018.
- Steiner, A. K.**, F. Ladstädter, H. Wilhelmsen, M. Stocker, M. Schwarz, and G. Kirchengast (poster), Advances in GNSS radio occultation for atmospheric climate monitoring, *SPARC General Assembly 2018*, Kyoto, Japan, October 2018.
- Steiner, A. K.**, F. Ladstädter, and H. Wilhelmsen, Temperature trends from atmospheric observations, *SPARC ATC Activity 2nd Workshop on Atmospheric Temperature Changes and their Drivers*, Paris, France, June 2018.

Maycock, A. C., W. J. Randel, and **A. K. Steiner***, Revisiting the mystery of recent stratospheric temperature trends, *SPARC ATC Activity 2nd Workshop on Atmospheric Temperature Changes and their Drivers*, Paris, France, June 2018 (*presenter).

Steiner, A. K., Attribution of extreme events to human induced climate change, *DK Climate Change Annual Workshop*, Wegener Center, Graz, Austria, June 2018.

Steiner, A. K., F. Ladstädter, and H. Wilhelmsen (poster), Temperature trends variability in the troposphere and stratosphere from GPS Radio Occultation, *Geophys. Res. Abstracts, Vol. 20, EGU2018-1528, EGU General Assembly 2018*, Vienna, Austria, April 2018.

Steiner, A. K., and A. C. Maycock, Atmospheric temperature changes and their drivers - Activity report, 25th *SPARC Scientific Steering Group meeting*, Incheon, South Korea, October 2017.

Steiner, A. K., F. Ladstädter, H. Wilhelmsen, and G. Kirchengast (poster), Atmospheric variability and trends from the GPS RO record, *7. Österreichischer MeteorologInnentag*, Graz, Austria, November 2017.

Steiner, A. K., M. Mochart, F. Ladstädter, B. Angerer, M. Schwärz, C. Ao, H. Gleisner, D. Hunt, T. Schmidt, A. von Engeln, U. Foelsche, S-P. Ho, G. Kirchengast, Y-H. Kuo, K.B. Lauritsen, A.J. Mannucci, C. Marquardt, W. Schreiner, S. Syndergaard, and J. Wickert, Multi-mission GPS RO observations from different processing centers - consistency and structural uncertainty, *COSMIC-IROWG 2017*, Estes Park, CO, USA, September 2017.

Steiner, A. K., F. Ladstädter, H. Wilhelmsen, B. Angerer, and G. Kirchengast (poster), Atmospheric variability and trends from the GPS RO record, *COSMIC-IROWG 2017*, Estes Park, CO, USA, September 2017.

Steiner, A. K., G. Kirchengast*, and Research Teams, Climate use of GNSS radio occultation data, *RO Science Advisory Group 4th Meeting*, EUMETSAT, Darmstadt, May 2017.

Steiner, A. K., F. Ladstädter, and H. Wilhelmsen (poster), Vertically resolved trends from GPS Radio Occultation and their uncertainties, *Geophys. Res. Abstracts, Vol. 19, EGU2017-9489, EGU General Assembly 2017*, Vienna, Austria, April 2017.

Ladstädter, F., **A. K. Steiner***, B. Angerer, and H. Wilhelmsen (poster), Vertically resolved trends and imprints of recent record years in the UTLS from GPS RO, A13G-0381, *American Geophysical Union (AGU) Fall Meeting 2016*, San Francisco, CA, USA, December 2016 (*presenter).

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, H. Wilhelmsen, and B. Angerer, Vertically resolved atmospheric trends from the RO record 2001 to 2016, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, R. Klingler, B. Angerer, C. Ao, H. Gleisner, D. Hunt, T. Schmidt, A. von Engeln, U. Foelsche, S-P. Ho, G. Kirchengast, Y-H. Kuo, K. B. Lauritsen, A. J. Mannucci, C. Marquardt, W. Schreiner, S. Syndergaard, and J. Wickert, Consistency of multi-satellite RO records from different data centers: First result, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Steiner, A. K., B.C. Lackner, M. A. Ringer, and G. Kirchengast, Model evaluation with GPS radio occultation observations in the UTLS, *SPARC ATC Activity Workshop Atmospheric Temperature Changes and their Drivers*, Graz, Austria, April 2016.

Steiner, A. K., A. C. Maycock, and W. Randel, Atmospheric Temperature Changes and their Drivers (ATC) – New Avenues of the Stratospheric Temperature Trends Activity, *SPARC ATC Activity Workshop Atmospheric Temperature Changes and their Drivers*, Graz, Austria, April 2016.

Steiner, A. K., R. Biondi, G. Kirchengast, and T. Rieckh, Characterization of cyclones and volcanic clouds with GPS radio occultation, *3rd International Conference on GPS Radio Occultation (ICGPSRO)*, Taipoh, Taiwan, March 2016.

Steiner, A. K., A. C. Maycock, and W. Randel, Atmospheric temperature changes: new avenues of the stratospheric temperature trends activity, *SPARC 23rd Scientific Steering Group meeting*, Boulder, CO, USA, November 2015.

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, M. Schwärz, R. Biondi, L. Brunner, U. Foelsche, and G. Kirchengast, GPS radio occultation: applications of an emerging reference climate record, *SPARC Regional Workshop on Chemical and Physical Processes in the Climate System*, Boulder, CO, USA, November 2015.

Steiner, A. K., B. Scherllin-Pirscher, F. Ladstädter, L. Brunner, M. Schwärz, R. Biondi, J. Fritzer, J. Schwarz, U. Foelsche, and G. Kirchengast (poster), Observing climate variability and change with GPS radio occultation, *Our Common Future Under Climate Change – CFCC15*, Paris, France, June 2015.

Steiner, A. K., B. Scherllin-Pirscher*, L. Brunner, M. Schwärz, and G. Kirchengast (poster), Temperature trends in the upper troposphere to lower stratosphere from radio occultation climate records 2002 to 2012, *5th SPARC General Assembly*, Queenstown, New Zealand, January 2014.

Steiner, A. K., B. Scherllin-Pirscher, L. Brunner, M. Schwärz, and G. Kirchengast* (poster), Temperature trends in the upper troposphere to lower stratosphere from radio occultation climate records 2002 to 2012, *AGU Fall Meeting*, San Francisco, CA, USA, December 2013.

Steiner, A. K., J. Schwarz, M. A. Ringer, and G. Kirchengast, Evaluation of climate models with radio occultation observations, *OPAC-IROWG 2013 International Workshop*, Seggau Castle, Austria, September 2013.

Steiner, A. K., B. C. Lackner, M. Schwärz, M. A. Ringer, and G. Kirchengast (poster), Evaluation of climate models using radio occultation observations – Tropical convection regimes in the HadGEM model, *4th WGNE Workshop on systematic errors in weather and climate models*, Exeter, UK, April 2013.

Steiner, A. K., Beobachtung von Klimaänderungen mittels GPS Radio-Okkultation, *Habilitationskolloquium*, University of Graz, Graz, Austria, January 2013.

Steiner, A. K., D. Hunt, S-P. Ho, G. Kirchengast, A. J. Mannucci, B. Scherllin-Pirscher, H. Gleisner, A. von Engeln, T. Schmidt, C. Ao, S. S. Leroy, E. R. Kursinski, U. Foelsche, M. Gorbunov, S. Heise, Y-H. Kuo, K. B. Lauritsen, C. Marquardt, C. Rocken, W. Schreiner, S. Sokolovskiy, S. Syndergaard, and J. Wickert, Assessing structural uncertainty in climate data records from GPS radio occultation, *Geophysical Research Abstracts*, Vol. 14, EGU2012-9319-1, *European Geosciences Union (EGU) General Assembly 2012*, Vienna, Austria, April 2012.

Steiner, A. K., B. C. Lackner, M. Schwärz, M. A. Ringer, and G. Kirchengast, Evaluation of climate models using radio occultation observations – Tropical convection regimes in the HadGEM model, *Int'l Radio Occultation Working Group 2nd Workshop (IROWG2)*, Estes Park, CO, USA, March 28 to April 3, 2012.

Steiner, A. K., D. Hunt, S-P. Ho, G. Kirchengast, A. J. Mannucci, B. Scherllin-Pirscher, H. Gleisner, A. von Engeln, T. Schmidt, C. Ao, S. S. Leroy, E. R. Kursinski, U. Foelsche, M. Gorbunov, Y-H. Kuo, K. B. Lauritsen, C. Marquardt, C. Rocken, W. Schreiner, S. Sokolovskiy, S. Syndergaard, S. Heise, and J. Wickert, Quantification of structural uncertainty in climate data records from GPS radio occultation, *Int'l Radio Occultation Working Group 2nd Workshop (IROWG2)*, Estes Park, CO, USA, March 28 to April 3, 2012.

Steiner, A. K., D. Hunt, S-P. Ho, G. Kirchengast, A. J. Mannucci, B. Scherllin-Pirscher, H. Gleisner, A. von Engeln, T. Schmidt, C. Ao, S. S. Leroy, U. Foelsche, Y-H. Kuo, E. R. Kursinski, K. B. Lauritsen, S. Syndergaard, M. Gorbunov, C. Marquardt, C. Rocken, W. Schreiner, S. Sokolovskiy, and J. Wickert (poster), Towards Earth system data records from GPS radio occultation: Assessing structural uncertainty, Abstract IN21A-1406, *American Geophysical Union (AGU) Fall Meeting 2011*, San Francisco, CA, USA, December 2011.

Lackner B. C., **A. K. Steiner***, M. A. Ringer, and G. Kirchengast (poster), Evaluation oft tropical convection regimes in the HadGEM2 model using radio occultation observations, Abstract GC41A-0780, *American Geophysical Union (AGU) Fall Meeting 2011*, San Francisco, CA, USA, December 2011 (*presenter).

Ladstädter, F., **A. K. Steiner***, L. Haimberger, C. Tavolato, U. Foelsche, and G. Kirchengast, Beobachtung der Temperatur der unteren Stratosphäre mit (A)MSU, Radiosonden und GPS Radio-Okkultation: Ein Vergleich, *4. Österr. MeteorologInnentag*, Klagenfurt, Austria, November 2011 (*presenter).

Steiner, A. K., S-P. Ho, D. Hunt, G. Kirchengast, A. J. Mannucci, B. Scherllin-Pirscher, H. Gleisner, A. von Engeln, T. Schmidt, C. Ao, S. S. Leroy, U. Foelsche, Y-H. Kuo, E. R. Kursinski, K. B. Lauritsen, S. Syndergaard, C. Marquardt, C. Rocken, W. Schreiner, S. Sokolovskiy, J. Wickert, Structural uncertainty of the CHAMP RO climate record from different data centers, *5th Formosat-3/COSMIC Data Users Workshop and Int'l Conference on GPS Radio Occultation (ICGPSRO) 2011*, Taipeh, Taiwan, April 2011.

Steiner, A. K., S-P. Ho, D. Hunt, G. Kirchengast, A. J. Mannucci, B. Scherllin-Pirscher, H. Gleisner, A. von Engeln, T. Schmidt, C. Ao, S. S. Leroy, U. Foelsche, Y-H. Kuo, E. R. Kursinski, K. B. Lauritsen, S. Syndergaard, C. Marquardt, C. Rocken, W. Schreiner, S. Sokolovskiy, J. Wickert, Structural uncertainty of the CHAMP climate record from different data centers, *Int'l Workshop on Occultations for Probing Atmosphere and Climate (OPAC) 2010*, Graz, Austria, September 2010.

Scherllin-Pirscher B., **A. K. Steiner***, U. Foelsche, G. Kirchengast, and Y.-H. Kuo (poster), Error characteristics of GPS radio occultation atmospheric profiles, *OPAC 2010 International Workshop*, Graz, Austria, September 2010 (*presenter).

Steiner, A. K., U. Foelsche, B. Scherllin-Pirscher, B. C. Lackner, F. Ladstädter, and G. Kirchengast, Monitoring des Klimawandels mit Satellitenmethoden – GPS Radio-Okkultation, *Summer University – Graz in Space 2010*, Univ. of Graz, Austria, September 2010.

Steiner A. K., G. Kirchengast, B. C. Lackner, G. C. Hegerl, B. Pirscher, and U. Foelsche (poster), Climate change detection in the UTLS with the GPS radio occultation record, *Eos Trans. AGU 90(52), Fall Meet. Suppl.*, Abstract A31D-0154, *American Geophysical Union (AGU) Fall Meeting 2009*, San Francisco, CA, USA, December 2009.

- Steiner A. K.**, G. Kirchengast, B. C. Lackner, G. C. Hegerl, B. Pirscher, and U. Foelsche (poster), Climate change detection with the GPS radio occultation record, *3. Österr. MeteorologInnentag*, Graz, Austria, November 2009.
- Steiner, A. K.**, G. Kirchengast, B. C. Lackner, G. C. Hegerl, B. Pirscher, and U. Foelsche, Climate change detection with the GPS radio occultation record, *4th Formosat-3/COSMIC Workshop*, Boulder, CO, USA, October 2009.
- Steiner A. K.**, G. Kirchengast, B. C. Lackner*, G. C. Hegerl, B. Pirscher, M. Borsche and U. Foelsche (poster), The GPS radio occultation record – a novel dataset for atmospheric change detection, *WAVACS Summer School*, Cargese/Corsica, France, September 2009.
- Steiner, A. K.**, B. C. Lackner, G.C. Hegerl, B. Pirscher, M. Borsche, U. Foelsche, and G. Kirchengast, Atmospheric change detection based on the GPS radio occultation record, *Geophysical Research Abstracts*, Vol. 11, EGU2009-9074, *European Geosciences Union (EGU) General Assembly 2009*, Vienna, Austria, April 2009.
- Steiner, A. K.**, G. Kirchengast, B. C. Lackner, G. C. Hegerl, B. Pirscher, M. Borsche, and U. Foelsche (poster), The GPS radio occultation record – a novel dataset for atmospheric change detection, *The IARU Scientific Congress on Climate Change: Global Risks, Challenges and Decisions*, Copenhagen, Denmark, March 2009.
- Steiner, A. K.**, G. Kirchengast*, B. C. Lackner, B. Pirscher, M. Borsche, and U. Foelsche, Detection of tropical temperature change based on GPS radio occultation within 1995 to 2008, *Eos Trans. AGU* 89(53), Fall Meet. Suppl., Abstract GC31B-5, *American Geophysical Union (AGU) Fall Meeting 2008*, San Francisco, CA, USA, December 2008 (*presenting author).
- Steiner, A. K.**, U. Foelsche, B. C. Lackner, F. Ladstdälder, M. Borsche, B. Pirscher, A. Leuprecht, J. Fritzer, M. Pock, und G. Kirchengast (invited), Klimamonitoring und Atmosphärenanalyse mittels Radio-Okkultation: Überblick und aktuelle Ergebnisse, *Meteorol.-Geophys. Kolloquium*, Univ. Wien, Austria, November 2008.
- Steiner, A. K.**, G. Kirchengast, B. C. Lackner, B. Pirscher, M. Borsche, and U. Foelsche, Atmospheric climate change detection based on the GPS radio occultation record within 1995 to 2007, *5th IAGA/ICMA/CAWSES Workshop "Long-term Trends and Changes in the Atmosphere"*, St. Petersburg, Russia, September 2008.
- Steiner, A. K.**, Klimamonitoring und Atmosphärenanalyse mittels Radio-Okkultation: Aktuelle Forschung am Wegener Zentrum, *2. Österr. Meteorologentag*, Wien, Austria, November 2007.
- Steiner, A. K.**, G. Kirchengast, M. Borsche, and U. Foelsche, A comparison of lower stratospheric temperatures from the 2001-2006 CHAMP radio occultation and MSU/AMSU climate records, *Geophysical Research Abstracts*, Vol. 9, EGU2007-A-10228, *European Geosciences Union (EGU) General Assembly 2007*, Vienna, Austria, April 2007.
- Steiner, A. K.**, G. Kirchengast, M. Borsche, U. Foelsche, and T. Schöngassner (poster), A multi-year comparison of lower stratospheric temperatures from CHAMP radio occultation data with MSU/AMSU records WGNE/PCMDI *Workshop on Systematic Errors in Climate and NWP Models*, San Francisco, USA, February 2007.
- Steiner A. K.**, G. Kirchengast, M. Borsche, U. Foelsche, and T. Schöngassner (poster), Comparison of upper air temperatures: MSU/AMSU and CHAMP radio occultation data, *4th Workshop on Long-Term Changes and Trends in the Atmosphere*, Sodankylä, Finland, September 2006.
- Steiner A. K.**, G. Kirchengast, M. Borsche, U. Foelsche, and T. Schöngassner (poster), Upper air temperatures from satellite records: A comparison of MSU and CHAMP radio occultation data, *Geophysical Research Abstracts* Vol. 8, 09559, *EGU General Assembly 2006*, Vienna, Austria, April 2006.
- Steiner, A. K.**, A. Gobiet, U. Foelsche, M. Borsche, G. Kirchengast, T. Schmidt, and J. Wickert, Validation of stratospheric temperatures in ECMWF analyses with CHAMP radio occultation climatologies, *2nd GPS Radio Occultation Data User's Workshop*, Lansdowne, VA, USA, August 2005.
- Steiner, A. K.**, A. Löscher, and G. Kirchengast, Error characteristics of refractivity profiles retrieved from CHAMP radio occultation data, *2nd Int'l Workshop on Occultations for Probing Atmosphere and Climate (OPAC-2)*, Graz, Austria, September 2004.
- Steiner, A. K.**, U. Foelsche, G. Kirchengast, A. Gobiet, A. Löscher, J. Wickert and T. Schmidt (poster), CHAMPCLIM: Climatologies based on radio occultation observations, *1st International CLIVAR Conference*, Baltimore, MD, USA, June 2004.
- Steiner, A. K.**, A. Löscher, and G. Kirchengast, Error characteristics of refractivity profiles retrieved from CHAMP radio occultation data, *Geophysical Research Abstracts*, Vol. 6, 05423, *European Geosciences Union (EGU) 1st General Assembly*, Nice, France, April 2004.
- Steiner, A. K.** (invited poster): Environmental research in Biosphere 2, *15th Annual Conference of the Academia Europea*, Graz, Austria, September 2003.

Steiner, A. K., and G. Kirchengast, Empirical error characteristics of radio occultation data for data assimilation systems, Geophysical Research Abstracts, Vol. 5, 12719, *EGS-AGU-EUG Joint Assembly 2003*, Nice, France, April 2003.

Steiner, A. K., and G. Kirchengast, Climate monitoring using GNSS occultation: Empirical error analysis of GNSS radio occultation data, *Workshop on Atmospheric Investigations Using GPS Techniques, 4th Oersted International Science Team Conference (OIST-4)*, Copenhagen, Denmark, September 2002.

Steiner, A. K., and G. Kirchengast (poster): Ensemble-based analysis of errors in atmospheric profiles retrieved from GNSS occultation data, *1st Int'l Workshop on Occultations for Probing Atmosphere and Climate (OPAC-1)*, Graz, Austria, September 2002.

Steiner, A. K., and G. Kirchengast (poster): Empirical error analysis based on realistically simulated GNSS radio occultation data, Geophysical Research Abstracts, Vol. 2, *27th Gen. Assembly of the European Geophysical Society*, Nice, France, April 2002.

Steiner, A. K., and G. Kirchengast (prevented from coming; presentation pdf sent to convener for distrib.), Empirical error analysis of GNSS radio occultation data, *8th Scientific Assembly of the International Association of Meteorology and Atmospheric Sciences (IAMAS)*, Innsbruck, Austria, July 2001.

Steiner, A. K., and G. Kirchengast, Atmosphere profiles from GPS/MET observations: Data validation and analysis of gravity wave spectra, Eos Trans. AGU 79(45), Fall Meet. Suppl., Abstract A32C-10, *American Geophysical Union (AGU) Fall Meeting 1998*, San Francisco, CA, USA, December 1998.

Steiner, A. K., K. Hocke, G. Kirchengast, and H.P. Ladreiter, Analysis of GPS/MET data and error estimation with discrete matrix inversion, Ann. Geophys. Part II, Suppl II, Vol. 15, C521, *22nd General Assembly of the European Geophysical Society (EGS)*, Vienna, Austria, April 1997.

Presentations as Co-Author at International Conferences

2024

Stocker, M., **A. K. Steiner**, F. Ladstädter, U. Foelsche, and W. J. Randel (poster), Observed impacts of the Hunga eruption on stratospheric temperature, *COSMIC/JCSDA Workshop and IROWG-10*, Boulder, CO, USA, September 2024

Stocker, M., **A. K. Steiner**, F. Ladstädter, U. Foelsche, and W. J. Randel, Observed impacts of the Hunga Tonga eruption on stratospheric temperature, *APARC Workshop on the Impact of the Hunga Eruption*, Paris (online), April 2024.

Stocker, M., **A. K. Steiner**, F. Ladstädter, U. Foelsche, and W. J. Randel, Observed impacts of the Hunga Tonga eruption on stratospheric temperature, Abstract ID EGU24-11683, *EGU General Assembly 2024*, Vienna, Austria, April 2024.

Stocker, M., F. Ladstädter, and **A. K. Steiner** (poster), Stratospheric impacts of the 2022 Hunga-Tonga-Hunga-Ha'apai eruption observed by radio occultation measurements, Abstract ID 1415668, *AGU Fall Meeting 2023*, San Francisco, USA, (online poster), January 2024.

2023

Engdaw, M. M., G. C. Hegerl, A. P. Ballinger, and **A. K. Steiner**, Detection and attribution of compound climate extremes in Africa, *WCRP Open Science Conference*, Kigali, Ruanda (hybrid), October 2023.

Stocker, M., F. Ladstädter, and **A. K. Steiner** (poster), Stratospheric impacts of the 2022 Hunga-Tonga-Hunga-Ha'apai eruption observed by radio occultation measurements, *WCRP Open Science Conference*, Kigali, Ruanda (hybrid), October 2023.

Yessimbet, K., F. Ladstädter, A. C. Ossó, and **A. K. Steiner** (poster), Observational perspective on SSWs and blocking from E-P fluxes, *Joint SPARC DynVar – SNAP Meeting – The Role of Atmospheric Dynamics for Climate and Extremes*, LMU Munich, Munich, Germany, October 2023.

Pichler, M., and **A. K. Steiner**, Investigating atmospheric blocking and related extreme events in Austria over the past decades, *9th Meeting of the Austrian Meteorological Society*, University of Innsbruck, Innsbruck, Austria, May 2023.

Stocker, M., F. Ladstädter, and **A. K. Steiner**, The 2022 Hunga Tonga-Hunga Ha'apai eruption and its impacts on the stratosphere, *9th Meeting of the Austrian Meteorological Society*, University of Innsbruck, Innsbruck, Austria, May 2023.

2022

Yessimbet, K., T. G. Shepherd, A. Ossó, and **A. K. Steiner** (poster), A causal inference analysis of pathways of influence between NH blocking and stratospheric polar vortex variability, *SPARC 7th General Assembly*, WCRP/SPARC, Exeter, Boulder, Quingdao (hybrid), October 2022.

de la Torre, A., P. Alexander, T. Schmidt, P. Llamedo, R. Hierro, A. K. Steiner, and F. Ladstädter, Signs of climate variability in double tropopause global distribution from two decades of radio occultation data, *OPAC-IROWG 2022 International Workshop*, Seggau Castle, Leibnitz, Austria, September 2022.

Ladstädter, F., M. Stocker, K. Yessimbet, and **A. K. Steiner**, GNSS RO providing a detailed view on the thermal structure and changes in Earth's atmosphere, *OPAC-IROWG 2022 International Workshop*, Seggau Castle, Leibnitz, Austria, September 2022.

Santer, B. D., S. Po-Chedley, Q. Fu, J. C. Fyfe, C. Mears, S. Solomon, **A. K. Steiner**, F. J. Wentz, and C. Z. Zou, Atmospheric temperature change: recent advances and open issues, *OPAC-IROWG 2022 International Workshop*, Seggau Castle, Leibnitz, Austria, September 2022 (invited keynote).

Stocker, M., F. Ladstädter, and A. K. Steiner, Wildfire and volcanic signals in the stratosphere observed by radio occultation measurements, *OPAC-IROWG 2022 International Workshop*, Seggau Castle, Leibnitz, Austria, September 2022.

Yessimbet, K., A. Osso, F. Ladstädter, and A. K. Steiner, Analysis of UTLS dynamics using GNSS radio occultations: the connection between blocking and sudden stratospheric warming events, *OPAC-IROWG 2022 International Workshop*, Seggau Castle, Leibnitz, Austria, September 2022.

Liu, J., L. Meng, D. W. Tarasick, W. J. Randel, **A. K. Steiner**, H. Wilhelmsen, L. Wang, and L. Haimberger, Tropospheric warming drives the rise of the tropopause in the Northern Hemisphere

in recent decades, *Canadian Meteorological and Oceanographic Society (CMOS) 56th Congress*, Session 6010, ID 11492, June 2022.

Ladstädter, F., **A. K. Steiner**, and H. Gleisner, Observational evidence of large changes of Earth's atmospheric thermal structure in the 21st century, EGU22-9823, *EGU General Assembly 2022*, Vienna, Austria, May 2022.

Stocker, M., F. Ladstädter, and **A. K. Steiner**, Observing the climate impact of large wildfires on stratospheric temperature, EGU22-10524, *EGU General Assembly 2022*, Vienna, Austria, May 2022.

Yessimbet, K., A. Osso, F. Ladstädter, and **A. K. Steiner**, Observed connection between blocking and sudden stratospheric warming events using GNSS radio occultation observations, EGU22-10562, *EGU General Assembly 2022*, Vienna, Austria, May 2022.

Yessimbet, K., T. G. Shepherd, A. Ossó, and **A. K. Steiner**, A causal inference analysis of pathways of influence between NH blocking and stratospheric polar vortex variability. Group Seminar, University of Reading, March 2022.

Stocker, M., F. Ladstädter, and **A. K. Steiner**, Auswirkungen von Waldbränden auf das Stratosphärenklima, Poster DACH2022-221, *Meteorologietagung DACH 2022*, Leipzig, Germany, March 2022.

2021

Stocker, M., F. Ladstädter, and **A. K. Steiner**, Stratospheric temperature impacted by strong wildfires, *AGU Fall Meeting 2021*, New Orleans, USA (online), December 2021.

Stocker, M., F. Ladstädter, and **A. K. Steiner**, Observing the climate impact of large wildfires on stratospheric temperature, *Meeting of the Commission for Climate and Air Quality (KKL) of the Austrian Academy of Sciences (ÖAW)*, Vienna (online), October 2021.

Yessimbet, K., A. Osso, F. Ladstädter, and **A. K. Steiner**, Investigating the connection between tropospheric blocking and sudden stratospheric warming events using GNSS radio occultation observations, *Atmospheric Blocking Virtual Workshop 2021*, September 2021.

Engdaw, M. M., A. Ballinger, G. C. Hegerl, and **A. K. Steiner**, Detection and attribution of changes in regional temperature extremes using CMIP6 models with a focus on Africa, *WCRP workshop on attribution of multi-annual to decadal changes in the climate system*, Poster D3-P13, Virtual Conference, September 2021.

Engdaw, M. M., A. Ballinger, G. C. Hegerl, and **A. K. Steiner**, Assessing the contribution of multiple forcings to changes in temperature extremes 1981–2020 using CMIP6 climate models, *EGU General Assembly 2021*, online, EGU21-7137, doi:10.5194/egusphere-egu2021-7137, April 2021.

Yessimbet, K. and **A. K. Steiner**, Investigating the connection between tropospheric blocking and sudden stratospheric warming events using GNSS radio occultation observations, *EGU General Assembly 2021*, online, EGU21-6400, doi:10.5194/egusphere-egu21-6400, April 2021.

2020

Tournigand, P-Y., V. Cigala, A. J. Prata, A. K. Steiner, G. Kirchengast, H. Brenot, L. Clarisse, and R. Biondi, The 2015 Calbuco volcanic cloud detection using GNSS radio occultation and satellite lidar, *IEEE International Geoscience and Remote Sensing Symposium – IGARSS 2020*, Virtual Symposium, September 26 – October 2, 2020.

Lasota, E., R. Biondi, F. Ladstädter, and **A. K. Steiner**, Impact of November 2010 volcanic activity on the UTLS temperatures, *EGU General Assembly 2020*, doi:10.5194/egusphere-egu2020-458, May 2020.

Engdaw, M. M., G. C. Hegerl, and **A. K. Steiner**, Changes in temperature and heat waves over Africa using observational and reanalysis datasets, *EGU General Assembly 2020*, doi:10.5194/egusphere-egu2020-6704, May 2020.

Tournigand P.-Y., V. Cigala, M. Hammouti, F. Prata, H. Brenot, L. Clarisse, **A. K. Steiner**, G. Kirchengast, and R. Biondi, SO₂ volcanic clouds detected from space: a new database, *EGU General Assembly 2020*, doi:10.5194/egusphere-egu2020-671, May 2020.

Yessimbet, K., and **A. K. Steiner**, Heavy Alpine snowfall in January 2019 connected to atmospheric blocking, *EGU General Assembly 2020*, doi:10.5194/egusphere-egu2020-10705, May 2020.

2019

Cigala, V., R. Biondi, F. Prata, **A. K. Steiner**, G. Kirchengast, and H. Brenot, Tracking the volcanic cloud altitude of the 2008 Kasatochi eruption with GNSS radio occultations, *AGU Fall Meeting 2019*, San Francisco, USA, December 2019.

Stocker, M., F. Ladstädter, H. Wilhelmsen, and **A. K. Steiner**, Auswirkungen aktueller Vulkaneruptionen auf stratosphärische Temperaturtrends, *8. Österreichischer MeteorologInnentag*, Salzburg, Austria, November 2019.

Yessimbet, K., and **A. K. Steiner**, Recent winter extreme weather event in Europe connected to atmospheric blocking, *8. Österreichischer MeteorologInnentag*, Salzburg, Austria, November 2019.

Engdaw M. M., and **A. K. Steiner**, Assessing changes in temperature and heat waves over Africa using observational and reanalysis datasets, Seminar Presentation, School of Geoscience, University of Edinburgh, Edinburgh, UK, October 2019.

Cigala, V., R. Biondi, F. Prata, A. K. Steiner, G. Kirchengast, and H. Brenot, GNSS RO technique pushes forward the detection of volcanic clouds, *ROM SAF-IROWG 2019*, Elsinore, Denmark, September 2019.

Kirchengast, G., **A. K. Steiner**, F. Ladstädter, and M. Gorfer, Radio Occultation Contribution to WG I Chapter 7 Earth's Energy Budget: Recent Atmospheric Energy Storage Change, *IPCC AR6 Session at ROM SAF-IROWG 2019 International Workshop*, Elsinore, Denmark, September 2019.

Kirchengast, G., M. Gorfer, F. Lippl, F. Ladstädter, and **A. K. Steiner**, Climate monitoring of atmospheric heat content and heat exchange with the oceans: a new key role for radio occultation, *ROM SAF-IROWG 2019*, Elsinore, Denmark, September 2019.

Ladstädter, F., **A. K. Steiner**, H. Wilhelmsen, M. Stocker, and P. Peter, Climatological trends from RO, *ROM SAF-IROWG 2019*, Elsinore, Denmark, September 2019.

Stocker, M., F. Ladstädter, H. Wilhelmsen, and **A. K. Steiner** (poster), Stratospheric temperature signals from post-2000 volcanic eruptions, *ROM SAF-IROWG 2019*, Elsinore, Denmark September 2019

Wilhelmsen, H., F. Ladstädter, T. Schmidt, and **A. K. Steiner**, Double tropopause characteristics from the full radio occultation record, *ROM SAF-IROWG 2019*, Elsinore, Denmark September 2019.

Kirchengast, G., F. Ladstädter, **A. K. Steiner**, M. Gorfer, F. Lippl, and B. Angerer, Climate trends and variability in atmosphere heat content and atmosphere ocean heat exchanges: space geodesy is key, *IUGG General Assembly 2019*, Montreal, Canada, July 2019.

Knittel, N., M. Jury, B. Bednar-Friedl, G. Bachner, and **A. K. Steiner**, A global analysis of heat-related labour productivity losses under climate change - implications for Germany's foreign trade, *24th Annual Conference of the European Association of Environmental and Resource Economists (EAERE)*, University of Manchester, Manchester, UK, June 2019.

Knittel, N., M. Jury, B. Bednar-Friedl, and **A. K. Steiner**, A global analysis of heat-related labour productivity losses under climate change - implications for Germany's foreign trade, *4th ECCA -4th European Climate Change Adaptation conference*, CCB, Lisbon, Portugal, June 2019.

Kirchengast, G., F. Ladstädter, B. Angerer, **A. K. Steiner**, M. Gorfer, and F. Lippl, Monitoring trends and variability in atmospheric heat content and atmosphere-ocean heat exchange using radio occultation, *LPS19 - ESA Living Planet Symposium 2019*, Milan, Italy, May 2019.

Cigala, V. R. Biondi, **A. K. Steiner**, G. Kirchengast, and H. Brenot (poster), Detection and monitoring of the volcanic ash cloud top height applying the Global Navigation Satellite System Radio Occultation technique, *EGU General Assembly 2019*, Vienna, Austria, April 2019.

2018

Biondi R., F. J. Prata, **A. K. Steiner**, and G. Kirchengast (poster), GPS radio occultations for understanding the impact of volcanic eruptions on atmospheric variability and climate, *AGU Fall Meeting 2018*, Washington, D.C., USA, December 2018.

Kirchengast, G., F. Ladstädter, B. Angerer, **A. K. Steiner**, M. Gorfer, and F. Lippl, Towards monitoring trends and variability in the atmospheric heat content primarily based on radio occultation, *WCRP Workshop "The Earth's Energy Imbalance and its implications"*, Toulouse, France, November 2018.

Ladstädter, F., H. Wilhelmsen, and **A. K. Steiner** (poster), Tropical temperature and tropopause trends from vertically high resolved observations, *SPARC General Assembly 2018*, Kyoto, Japan, October 2018.

Steininger, K. W., C. Unterberger, L. Brunner, S. Nabernegg, **A. Steiner**, S. Edith, S. Monschein, and H. Truhetz: Spring frost risk for regional fruit production under a warmer climate, *6th World Congress of Environmental and Resource Economists*, Gothenburg, Sweden, June 2018.

Knittel, N., M. Jury, B. Bednar-Friedl, G. Bachner, and **A. Steiner**, The effects of climate change induced labour productivity losses in main trading partner countries on Germany's foreign trade, *AURÖ- Workshop for young researchers: "Environmental and resource economics,"* Osnabrück, Germany, February 2018.

Knittel, N., M. Jury, B. Bednar-Friedl, G. Bachner, and **A. Steiner**, The impacts of global climate change on Germany's international trade: A model analysis of heat related productivity losses, *The EAERE-FEEM-VIU European Summer School in Resource and Environmental Economics (Climate Change Assessment: Economic Models and Evaluation Criteria)*, Venice, Italy, February 2018.

Groß-Vogt, K., T. Hermann, **A. K. Steiner**, and S. Kartadinata, Klima|Anlage - Performing Climate Data, *2nd World Symposium on Climate Change Communication*, Graz, Austria, February 2018

Ladstädter, F., **A. K. Steiner**, and H. Wilhelmsen (poster), Climate variability and trends in the UTLS from GPS RO, AMSU, and radiosondes observations (poster), *SPARC Workshop on The UTLS: Current Status and Emerging Challenges*, Johannes Gutenberg University, Mainz, Germany, February 2018

Wilhelmsen, H., F. Ladstaedter, and **A. K. Steiner** (poster), Tropopause variability and trends from radio occultation and ERA-Interim (poster), *SPARC Workshop on The UTLS: Current Status and Emerging Challenges*, Johannes Gutenberg University, Mainz, Germany, February 2018

2017

Brunner, L., N. Schaller, J. Sillmann, and **A. K. Steiner**, Dependence of present and future European heat waves and cold spells on the location of atmospheric blocking, A41B-2269, *American Geophysical Union (AGU) Fall Meeting 2017*, New Orleans, LA, USA, December 2017.

Haimberger, L., H. Hersbach, P. Dahlgren, **A. K. Steiner**, and F. Ladstädter, Homogenized radiosonde temperature data for climate reanalyses, *5th International Conference on Reanalysis (ICR5)*, Rome, Italy, November 2017.

Brunner, L., N. Schaller, J. Sillmann, and **A. K. Steiner**, Dependence of present and future European heat waves and cold spells on the location of atmospheric blocking, *7. Österreichischer MeteorologInnentag*, Graz, Austria, November 2017.

Maycock, A. C., and **A. K. Steiner**, The SPARC Atmospheric Temperature Changes and their Drivers Activity, *13th SPARC Data Assimilation Workshop*, Reading, UK, October 2017.

Biondi, R., S. Corradini, **A. K. Steiner**, G. Kirchengast, L. Guerrieri, L. Merrucci, D. Stelitano, and S. Pugnaghi, How can the GNSS radio occultation improve volcanic clouds studies?, *COSMIC-IROWG 2017 Workshop*, Estes Park, CO, USA, September 2017.

Ladstädter, F., H. Wilhelmsen, B. Angerer, and **A. K. Steiner**, Differences in trends and anomalies of upper-air observations from GPS RO, AMSU, and radiosondes, *COSMIC-IROWG 2017*, Estes Park, CO, USA, September 2017.

Schwaerz, M., B. Scherllin-Pirscher, F. Ladstädter, B. Angerer, **A. K. Steiner**, and G. Kirchengast, OPSv5.6 – An improved version of the Wegener Center radio occultation processing system and its recent re-processing, *COSMIC-IROWG 2017*, Estes Park, CO, USA, September 2017.

Wilhelmsen, H., F. Ladstädter, B. Scherllin-Pirscher, and **A. K. Steiner**, Atmospheric QBO and ENSO indices with high vertical resolution from GNSS RO, *COSMIC-IROWG 2017*, Estes Park, CO, USA, September 2017.

Brunner, L., N. Schaller, J. Sillmann, G. C. Hegerl, and **A. K. Steiner**, Dependence of present and future European heatwaves and cold spells on the location of atmospheric blocking, *TITAN workshop*, Edinburgh, UK, September 2017.

Unterberger, C., S. Nabernegg, L. Brunner, **A. K. Steiner**, K. W. Steininger, S. Mondschein, and E. Stabentheiner, Meteorological blocking events to potentially increase economic damages in a warmer climate, *Responding to an Uncertain Future: Normative Theories of Risk and Climate Change Policy*, Graz, Austria, 2017.

Angerer, B., F. Ladstädter, B. Scherllin-Pirscher, M. Schwärz, and **A. K. Steiner** (poster), Quality Aspects of the WEGC Multi-Satellite GPS Radio Occultation Record, *Geophys. Res. Abstracts*, Vol. 19, *EGU2017-15273*, *EGU General Assembly 2017*, Vienna, Austria, April 2017.

Brunner, L., and **A. K. Steiner**, Observing atmospheric blocking with GPS radio occultation – one decade of measurements, *Geophys. Res. Abstracts*, Vol. 19, *EGU2017-13099*, *EGU General Assembly 2017*, Vienna, Austria, April 2017.

Brunner, L., **A. K. Steiner**, and J. Sillmann (poster), Investigating the impact of atmospheric blocking on temperature extremes across Europe using an objective index, *Geophys. Res. Abstracts*, Vol. 19, *EGU2017-12277*, *EGU General Assembly 2017*, Vienna, Austria, April 2017.

Brunner L., G. Hegerl, and **A. K. Steiner** (poster), Linking atmospheric blocking to European temperature extremes in spring, *Geophys. Res. Abstracts*, Vol. 19, *EGU2017-12703*, *EGU General Assembly 2017*, Vienna, Austria, April 2017.

Ladstädter, F., H. Wilhelmsen, and **A. K. Steiner**, Differences in trends and anomalies of upper-air observations from GPS RO, radiosondes, and AMSU, *Geophys. Res. Abstracts*, Vol. 19, EGU2017-6532-2, *EGU General Assembly 2017*, Vienna, Austria, April 2017.

Wilhelmsen, H., B. Scherllin-Pirscher, F. Ladstädter, and **A. K. Steiner** (poster), QBO and ENSO indices from GPS Radio Occultation to describe atmospheric variability, *Geophys. Res. Abstracts*, Vol. 19, EGU2017-8279-3, *EGU General Assembly 2017*, Vienna, Austria, April 2017.

2016

Brunner, L., G. C. Hegerl, and **A. K. Steiner**, Linking atmospheric blocking in spring to European temperature extremes, A12D-06, *American Geophysical Union (AGU) Fall Meeting 2016*, San Francisco, CA, USA, December 2016.

Maycock, A. C., **A. K. Steiner**, and W. Randel, Atmospheric temperature changes and their drivers – SPARC ATC activity, *SPARC 24th Scientific Steering Group meeting*, Berlin, Germany, November 2015.

Brunner, L., G. C. Hegerl, and **A. K. Steiner** (poster), Linking atmospheric blocking in spring to European temperature extremes, *Summer School on Coping with Climate Change*, Reinischkogel, Austria, Sep. 2016.

Angerer, B., F. Ladstädter, B. Scherllin-Pirscher, M. Schwärz, and **A. K. Steiner** (poster), Quality aspects of the WEG multi-satellite RO record, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Biondi, R., **A. K. Steiner**, and G. Kirchengast, GPS radio occultation for studying extreme atmospheric events: demonstrated utility and future prospects, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Brunner, L., **A. K. Steiner**, B. Scherllin-Pirscher, and M. W. Jury, Blocking detection and analysis with GPS radio occultation observations, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016

Hierro, R., **A. K. Steiner**, A. de la Torre, and P. Llamedo (poster), Gravity waves and convective systems over the Alps and Andes, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Kirchengast, G., M. Schwaerz, J. Schwarz, B. Scherllin-Pirscher, C. Pock, J. Innerkofler, V. Proscheck, **A. K. Steiner**, J. Danzer, F. Ladstaedter, U. Foelsche, The reference occultation processing system approach to interpret GNSS radio occultation as SI-traceable planetary system refractometer, *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Wilhelmsen, H., B. Scherllin-Pirscher, F. Ladstädter, and **A. K. Steiner** (poster), Atmospheric QBO indices from GPS radio occultation (poster), *OPAC-IROWG 2016 International Workshop*, Seggau Castle, Austria, September 2016.

Kirchengast, G., M. Schwaerz, J. Schwarz, B. Scherllin-Pirscher, C. Pock, J. Innerkofler, V. Proscheck, **A. K. Steiner**, J. Danzer, F. Ladstaedter, U. Foelsche (invited), Using GNSS radio occultation as insitu-typeSI-traceable planetary system refractometer: a new benchmark for monitoring the climate, *13th Annual Meeting Asia Oceania Geosciences Society (AOGS 2016)*, Beijing, China, July-August 2016.

Kirchengast, G., M. Schwärz, J. Schwarz, B. Scherllin-Pirscher, C. Pock, J. Innerkofler, V. Proscheck, **A. K. Steiner**, J. Danzer, F. Ladstädter, and U. Foelsche, Employing GNSS radio occultation for solving the global climate monitoring problem for the fundamental state of the atmosphere, *EGU General Assembly*, Vienna, Austria, April 2016.

Foelsche, U., **A. K. Steiner**, B. Scherllin-Pirscher, J. Danzer, F. Ladstädter, M. Schwärz, T. Rieckh, J. Schwarz, R. Klingler, R. Biondi, L. Brunner, J. Fritzer, G. Kirchengast, Beobachtung von klimatischen Veränderungen und atmosphärischen Prozessen mittels GPS RO, *17. Österreichischer Klimatag*, Graz, Austria, April 2016.

Brunner, L., **A. K. Steiner**, B. Scherllin-Pirscher, and M. W. Jury, Blocking detection and analysis with GPS radio occultation observations, *SPARC Workshop on Atmospheric Blocking*, Reading, UK, April 2016.

Brunner, L., **A. K. Steiner**, G. Hegerl, B. Scherllin-Pirscher, and M. W. Jury, Blocking detection and analysis with GPS radio occultation observations, *Contemporary climate talk*, School of Geosciences, University of Edinburgh, Edinburgh, UK, March 2016.

2015

Kirchengast, G., M. Schwärz, J. Schwarz, B. Scherllin-Pirscher, C. Pock, J. Innerkofler, V. Proscheck, **A. K. Steiner**, J. Danzer, F. Ladstädter, and U. Foelsche, Towards solving the global climate monitoring problem for the fundamental state of the atmosphere with GNSS radio occultation, *AGU Fall Meeting*, San Francisco, CA, USA, December 2015.

Foelsche, U., **A. K. Steiner**, B. Scherllin-Pirscher, J. Danzer, F. Ladstädter, M. Schwärz, T. Rieckh, J. Schwarz, R. Klingler, R. Biondi, L. Brunner, J. Fritzer, und G. Kirchengast (poster), Beobachtung von atmosphärischen Prozessen und klimatischen Veränderungen mittels GPS Radio-Okkultation, *6. Österreichischer MeteorologInnentag*, Wien, Österreich, November 2015.

Brunner, L., **A. K. Steiner**, B. Scherllin-Pirscher, and M. W. Jury (poster), Blocking detection with observations from radio occultation, *2015 Swiss Climate Summer School: Extreme events and climate*, Ascona, Switzerland, August 2015.

Brunner, L., **A. K. Steiner**, B. Scherllin-Pirscher, M. W. Jury, and F. Ladstädter (poster), Blocking detection with observations from radio occultation: A case study, *WCRP/SPARC Workshop on Storm Tracks*, Grindelwald, Switzerland, August 2015.

Scherllin-Pirscher, B., **A. K. Steiner**, G. Kirchengast, and S. S. Leroy (poster), Atmospheric wind fields from GPS radio occultation, *WCRP/SPARC Workshop on Storm Tracks*, Grindelwald, Switzerland, August 2015.

Foelsche, U., Scherllin-Pirscher, B., J. Danzer, F. Ladstädter, **A. K. Steiner**, and G. Kirchengast (oral invited, and poster), Monitoring the climate of the upper troposphere and lower stratosphere with radio occultation data, *Our Common Future Under Climate Change – CFCC15*, Paris, France, June 2015.

Biondi, R., **A. K. Steiner**, G. Kirchengast, H. Brenot, and T. Rieckh, Exploring the capability of GPS radio occultation for detecting and monitoring volcanic clouds, *26th IUGG General Assembly 2015*, Prague, Czech Republic, June 2015.

Biondi, R., **A. K. Steiner**, G. Kirchengast, H. Brenot, and T. Rieckh, Investigating stratospheric warming due to the Nabro eruption with GPS radio occultation, *26th IUGG General Assembly 2015*, Prague, Czech Republic, June 2015.

Biondi, R., **A. K. Steiner**, and G. Kirchengast (poster), Characterization of tropical cyclones over different ocean basins, *26th IUGG General Assembly 2015*, Prague, Czech Republic, June 2015.

Kirchengast, G., M. Schwärz, J. Schwarz, B. Scherllin-Pirscher, A. Plach, C. Pock, J. Fritzer, and **A. K. Steiner**, A. Plach, J. Danzer, U. Foelsche, and F. Ladstädter (invited), Reference occultation processing system (rOPS) for cal/val and climate: a new GNSS RO retrieval chain with integrated uncertainty propagation, *IROWG-4 International Workshop*, Melbourne, Australia, April 2015.

Biondi, R., **A. K. Steiner**, G. Kirchengast, H. Brenot, and T. Rieckh, Did the Nabro volcanic eruption directly overshoot the tropopause?, *Geophys. Res. Abstracts*, Vol. 17, EGU2015-3039, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Biondi, R., **A. K. Steiner**, and G. Kirchengast (poster), Towards evaluating the intensity of convective systems by using GPS radio occultation profiles, *Geophys. Res. Abstracts*, Vol. 17, EGU2015-3036, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Brunner, L., **A. K. Steiner**, B. Scherllin-Pirscher, and M. Jury (poster), Feasibility of blocking detection in observations from radio occultation, *Geophys. Res. Abstracts*, Vol. 17, EGU2015-1519, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Ladstädter, F., **A. K. Steiner**, M. Schwärz, and G. Kirchengast, Climate comparison of reference upper-air measurements: GPS radio occultation and GRUAN radiosondes, *Geophys. Res. Abstracts*, Vol. 17, EGU2015-1918, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Scherllin-Pirscher, B., **A. K. Steiner**, G. Kirchengast, and S. Leroy (poster), Montgomery potential and wind fields on isentropic surfaces from GPS radio occultation, *Geophys. Res. Abstracts*, Vol. 17, EGU2015-10523, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Scherllin-Pirscher, B., F. Ladstädter, **A. K. Steiner**, and G. Kirchengast, Characteristics of atmospheric Kelvin waves during warm and cold ENSO phases observed with GPS RO, *Geophys. Res. Abstracts*, Vol. 17, EGU2015-10367, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Vogt K., H. H. Rutz, V. Goudarzi, R. Höldrich, **A. K. Steiner**, M. Jury, R. Walter, and R. Parncutt (poster), SysSon - A framework for Systematic Sonification design *Geophys. Res. Abstracts*, Vol. 17, EGU2015-14551, *EGU General Assembly 2015*, Vienna, Austria, April 2015.

Biondi, R., T. Rieckh, **A. K. Steiner**, and G. Kirchengast, GPS radio occultation for detecting and monitoring volcanic clouds, *Volcanoes, Climate, and Society – Bicentenary of the great Tambora eruption*, Bern, Switzerland, April 2015.

2014

- Biondi, R., **A. K. Steiner**, T. Rieckh and G. Kirchengast, A new method for detecting and monitoring atmospheric natural hazards with GPS RO, *AGU Fall Meeting*, San Francisco, CA, USA, December 2014.
- Biondi, R., **A. K. Steiner**, T. Rieckh and G. Kirchengast (oral), GPS radio occultation for studying extreme events, *Eighth FORMOSAT-3/COSMIC Data Users' Workshop*, Boulder, CO, USA, September-October 2014.
- Scherllin-Pirscher, B., **A. K. Steiner**, and G. Kirchengast, The El Niño–Southern Oscillation signal in geopotential height and wind derived from GPS RO, *Eighth FORMOSAT-3/COSMIC Data Users' Workshop*, Boulder, CO, USA, September-October 2014.
- Biondi, R., T. Rieckh, **A. K. Steiner**, and G. Kirchengast, GNSS Radio Occultations for monitoring volcanic ash clouds, *Geophys. Res. Abstracts*, Vol. 16, EGU2014-1620-1, *EGU General Assembly 2014*, Vienna, Austria, April-May 2014.
- Biondi, R., T. Rieckh, **A. K. Steiner**, and G. Kirchengast, Characteristics of tropical cyclones and overshooting from GPS radio occultation data, *Geophys. Res. Abstracts*, Vol. 16, EGU2014-1619-1, *EGU General Assembly 2014*, Vienna, Austria, April-May 2014.
- Biondi, R., T. Rieckh, **A. K. Steiner**, and G. Kirchengast, A reference atmosphere from GPS radio occultation profiles, *Geophys. Res. Abstracts*, Vol. 16, EGU2014-5972, *EGU General Assembly 2014*, Vienna, Austria, April-May 2014.
- Brunner, L., **A. K. Steiner**, B. Scherllin-Pirscher, and G. Kirchengast (poster), Analysis of the vertically resolved ozone and temperature evolution in the lower and middle stratosphere, *Geophys. Res. Abstracts*, Vol. 16, EGU2014-361, *EGU General Assembly 2014*, Vienna, Austria, April-May 2014.
- Foelsche, U. B. Scherllin-Pirscher, J. Danzer, **A. K. Steiner**, F. Ladstädter, T. Rieckh, J. Schwarz, R. Klingler, und G. Kirchengast, Beobachtung von Prozessen und klimatischen Veränderungen in der Atmosphäre mittels Radio-Okkultationsdaten, *15. Österr. Klimatag*, Univ. Innsbruck, Innsbruck, Austria, April 2014.
- Biondi, R. **A. K. Steiner**, G. Kirchengast, and S. Bonafoni, The potential combined use of GPS radio occultations and ground based GPS for detecting continental storm intensity, *COST ES1206 GNSS4SWEC International Workshop*, Munich, Germany, February 2014.
- Scherllin-Pirscher, B., **A. K. Steiner**, and G. Kirchengast, Geopotential height and geostrophic wind from radio occultation data, *5th SPARC General Assembly*, Queenstown, New Zealand, January 2014.

2013

- Biondi, R., **A. K. Steiner**, and G. Kirchengast, A new GNSS technique for detecting and analyzing convective systems and tropical cyclones, *AGU Fall Meeting*, San Francisco, CA, USA, December 2013.
- Kirchengast*, G., M. Schwärz, J. Fritzer, J. Schwarz, B. Scherllin-Pirscher, and **A. K. Steiner** (poster), Solving the global climate monitoring problem in the atmosphere: Towards SI-tied climate records with integrated uncertainty propagation, *AGU Fall Meeting*, San Francisco, CA, USA, December 2013.
- Biondi, R., **A. K. Steiner**, and G. Kirchengast (poster), CONSYDER: CONvective Systems Detection and analysis using Radio occultations, *OPAC-IROWG 2013 International Workshop*, Seggau Castle, Austria, September 2013.
- Ladstädter, F., M. Schwärz, B. Scherllin-Pirscher, J. Schwarz, **A. K. Steiner**, L. Haimberger, and G. Kirchengast (poster), High resolution climate monitoring in the polar atmosphere: Inter-validation of radiosonde and radio occultation temperature profiles, *OPAC-IROWG 2013 International Workshop*, Seggau Castle, Austria, September 2013.
- Rutz, H. H., V. Goudarzi, K. Vogt, **A. K. Steiner**, and M. Jury (poster), SysSon: A Systematic design for the Sonification of radio occultation data, *OPAC-IROWG 2013 International Workshop*, Seggau Castle, Austria, September 2013.
- Ladstädter, F., M. Schwärz, B. Scherllin-Pirscher, J. Schwarz, **A. K. Steiner**, L. Haimberger, and G. Kirchengast (poster), Inter-validation of radiosonde and radio occultation temperature profiles: High resolution climate monitoring in the polar atmosphere, *Davos Atmosphere and Cryosphere Assembly DACA-13*, Davos, Switzerland, July 2013.
- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, J. Danzer, **A. K. Steiner**, J. Schwarz, and G. Kirchengast, Observing climate with GNSS radio occultation: Characterization and mitigation of systematic errors, *AGU Meeting of the Americas 2013*, Cancun, Mexico, May 2013.
- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, J. Danzer, T. Rieckh, **A. K. Steiner**, and G. Kirchengast, Climatologies of the upper troposphere and lower stratosphere based on GNSS radio occultation data as basis for trend studies, *35th International Symposium on Remote Sensing of the Environment*, Beijing, China, April 2013.

2012

- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, J. Danzer, **A. K. Steiner**, J. Fritzer, and G. Kirchengast (poster), Essential climate variables from radio occultation, *ESA Atmospheric Science Conference 2012*, June 2012.
- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, J. Danzer, T. Rieckh, **A. K. Steiner**, and G. Kirchengast (oral and poster), Radio occultation – a new tool for the observation of changes in the thermal structure of the atmosphere after major volcanic eruptions, *AGU Chapman Conference on Volcanism and the Atmosphere*, Selfoss, Iceland, June 2012
- Scherllin-Pirscher, B., **A. K. Steiner**, U. Foelsche, and G. Kirchengast (poster), Upper troposphere and lower stratosphere observations with radio occultation, *SPARC Workshop on the Brewer-Dobson Circulation*, Grindelwald, Switzerland, June 2012.

2011

- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, **A. K. Steiner**, J. Fritzer, and G. Kirchengast (poster), Atmosphärenbeobachtung mit der GPS Radio-Okkultationsmethode, *4. Österr. MeteorologInnentag*, Klagenfurt, Austria, November 2011.
- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, **A. K. Steiner**, J. Fritzer, and G. Kirchengast, Observing Earth's climate and atmospheric change with GNSS radio occultation, *DMI Seminar*, Danish Meteorological Institute, Copenhagen, Denmark, November 2011.
- Ladstädter, F., **A. K. Steiner**, L. Haimberger, C. Tavolato, U. Foelsche, G. Kirchengast, Upper-air temperature Records: A comparison of GPS radio occultation, radiosondes and MSU/AMSU in the lower stratosphere, *DMI Seminar*, Danish Meteorological Institute, Copenhagen, Denmark, November 2011.
- Foelsche, U., B. Scherllin-Pirscher, F. Ladstädter, **A. K. Steiner**, and G. Kirchengast, Konsistente Klimatologien der Atmosphäre mittels Radio-Okkultation, *12. Österr. Klimatag*, Univ. f. Bodenkultur, Vienna, Austria, September 2011.
- Lackner, B. C., **A. K. Steiner**, G. C. Hegerl, and G. Kirchengast, Klimawandeldetektion in der freien Atmosphäre mit GPS Radio-Okkultation, *12. Österr. Klimatag*, Univ. f. Bodenkultur, Vienna, Austria, September 2011.
- Foelsche, U., B. Scherllin-Pirscher, **A. K. Steiner**, F. Ladstädter, and G. Kirchengast, Observing Earth's atmosphere and climate with GNSS radio occultation, *2011 IEEE Geoscience and Remote Sensing Symposium*, Vancouver, Canada, July 2011.
- Ladstädter, F., **A. K. Steiner**, L. Haimberger, C. Tavolato, U. Foelsche, and G. Kirchengast, Upper-air temperature records: A comparison of GPS radio occultation, radiosondes and MSU/AMSU in the lower stratosphere, *The XXV IUGG General Assembly – Earth on the Edge: Science for a Sustainable Planet*, Melbourne, Australia, June–July 2011.

Foelsche, U., B. Scherllin-Pirscher, S. Syndergaard, J. Fritzer, **A. K. Steiner**, and G. Kirchengast, On the consistency of radio occultation climatologies from different satellites and possible reasons for common systematic errors, *5th FORMOSAT-3/COSMIC Data Users Workshop and Int'l Conference on GPS Radio Occultation (ICGPSRO) 2011*, Taipeh, Taiwan, April 2011.

Lackner B. C., **A. K. Steiner**, G. C. Hegerl, and G. Kirchengast (poster), GNSS radio occultation trend patterns for atmospheric climate change detection with a fingerprinting method, *Geophysical Research Abstracts*, Vol. 13, EGU2011-9872, *EGU General Assembly 2011*, Vienna, Austria, April 2011.

Foelsche, U., B. Scherllin-Pirscher, **A. K. Steiner**, and G. Kirchengast (invited), Radio occultation: A new tool for observing atmosphere and climate with higher accuracy than ever before, *SPACE Research Centre Public Seminar*, RMIT University, Melbourne, Australia, February 2011.

2010

- Scherllin-Pirscher B., **A. K. Steiner**, U. Foelsche, G. Kirchengast, and Y.-H. Kuo (poster), Error analysis of GPS radio occultation atmospheric profiles, Abstract G51A-0656, *American Geophysical Union (AGU) Fall Meeting 2010*, San Francisco, CA, USA, December 2010.
- Ladstädter, F., **A. K. Steiner**, L. Haimberger, C. Tavolato, and G. Kirchengast (poster), Comparing stratospheric temperature records from GPS radio occultation, MSU/AMSU, and radiosondes, *URBI-Fakultätstag 2010*, Universität Graz, Austria, Oktober 2010.
- Lackner, B. C., **A. K. Steiner**, G. Hegerl, and G. Kirchengast, Atmospheric climate change detection with radio occultation data, *OPAC 2010 International Workshop*, Graz, Austria, September 2010.

Ladstädter, F., **A. K. Steiner**, L. Haimberger, C. Tavolato, and G. Kirchengast, Comparing GPS radio occultation temperature records with MSU/AMSU and radiosondes for the lower stratosphere, *OPAC 2010 International Workshop*, Graz, Austria, September 2010.

Ladstädter, F., **A. K. Steiner**, L. Haimberger, C. Tavolato, and G. Kirchengast (poster), Comparing stratospheric temperature records from GPS radio occultation, MSU/AMSU, and radiosondes, *ESA Earth Observation Summer School on Earth System Monitoring & Modelling*, ESA-ESRIN, Frascati, Italy, August 2010.

Lackner, B. C., G. Hegerl, **A. K. Steiner**, and G. Kirchengast, The radio occultation record for atmospheric climate change detection, *11th International Meeting of Statistical Climatology (IMSC-11)*, Edinburgh, U.K., July 2010.

Ladstädter, F., **A. K. Steiner**, L. Haimberger, and G. Kirchengast, Comparing stratospheric temperature records from GPS radio occultation, MSU/AMSU, and radiosondes, Vol. 12, EGU2010-14650, *EGU General Assembly 2010*, Vienna, Austria, May 2010.

Lackner, B. C., G. C. Hegerl, **A. K. Steiner**, and G. Kirchengast (invited), GPS radio occultation for upper troposphere-lower stratosphere climate change detection, *IDAG (International Detection and Attribution Group) Spring Meeting*, Boulder, CO, USA, January 2010.

2009

Ladstädter, F., **A. K. Steiner**, B. C. Lackner, B. Pirscher, G. Kirchengast, P. Muigg, J. Kehrer, and H. Doleisch (poster), Analysis of climate data using interactive visual exploration methods, *Geophysical Research Abstracts*, Vol. 11, EGU2009-12637, *EGU General Assembly 2009*, Vienna, Austria, April 2009.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, B. C. Lackner, B. Pirscher, S. Körner, F. Ladstädter, S. Schweitzer, V. Proschek, T. Kabas, C. Bichler, M. Pock, J. Fritzer und A. Leuprecht (invited), Von global zu lokal: Monitoring des Klimawandels in der Atmosphäre mittels Satelliten und hoch-auflösendem Bodenmessnetz, *3. Österr. MeteorologInnentag*, Graz, Austria, November 2009.

2008

Lackner, B. C., **A. K. Steiner**, G. C. Hegerl, and G. Kirchengast (poster), Detection of climate change by means of radio occultation climatologies, *Eos Trans. AGU* 89(53), Fall Meet. Suppl., Abstract GC23A-0746, *American Geophysical Union (AGU) Fall Meeting 2008*, San Francisco, CA, USA, December 2008.

Foelsche, U., B. Pirscher, M. Borsche, **A. K. Steiner**, G. Kirchengast, C. Rocken (invited), Testing the consistency of radio occultation climatologies obtained from different satellites, *Formosat-3/COSMIC Annual Science Meeting (in conjunction with the 4th Asian Space Conference)*, Taipei, Taiwan, October 2008.

Foelsche, U., B. Pirscher, M. Borsche, **A. K. Steiner**, G. Kirchengast, C. Rocken, Global climatologies of the upper troposphere and lower stratosphere based on radio occultation data: A new database for trend studies, *5th IAGA/ICMA/CAWSES Workshop "Long-term Trends and Changes in the Atmosphere"*, St. Petersburg, Russia, September 2008.

Foelsche, U., B. Pirscher, M. Borsche, **A. K. Steiner**, G. Kirchengast, and C. Rocken (invited), Towards accurate monitoring of the upper troposphere and lower stratosphere: Testing the quality of radio occultation climatologies, *COSMIC Seminar*, Boulder, CO, USA, July 2008.

Kirchengast, G., **A. K. Steiner**, U. Foelsche, B. C. Lackner, B. Pirscher, and M. Borsche (invited), Climate records from radio occultation: Accuracy, uncertainty, trend detection, *23rd GRAS-SAG Meeting, EUMETSAT*, Darmstadt, Germany, July 2008.

Kirchengast, G., **A. K. Steiner**, U. Foelsche, B. C. Lackner, B. Pirscher, and M. Borsche (invited), Climate signal detection with GPS radio occultation measurements, *ECMWF GRAS-SAF Workshop on Applications of GPS Radio Occultation Measurements*, ECMWF, Reading, U.K., June 2008.

Kirchengast, G., and ARSCLiSys Research Group (invited), Climate utility and validation utility of GPS radio occultation measurements and the MMValRO project, *ESA Multi-Mission Validation by Radio Occultation (MMValRO) Project Kick-Off Meeting*, ESA/ESRIN, Frascati, June 2008.

Lackner, B. C., **A. K. Steiner**, F. Ladstädter, G. Kirchengast (poster), Assessing climate trend indicators from radio occultation based on reanalyses and global climate model scenarios, *Geophysical Research Abstracts*, Vol. 10, 05955, *European Geosciences Union General Assembly 2008*, Vienna, Austria, April 2008.

Ladstädter, F., **A. K. Steiner**, B. C. Lackner, G. Kirchengast, P. Muigg, J. Kehrer, and H. Doleisch (poster), Assessment of climate change indicators with the interactive visual field exploration tool SimVis, *Geophysical Res. Abstracts*, Vol. 10, 09859, *European Geosciences Union, General Assembly 2008*, Vienna, Austria, April 2008.

Borsche, M., U. Foelsche, B. Pirscher, **A. K. Steiner**, B. C. Lackner, J. Fritzer, M. Pock, and G. Kirchengast, Radiookkultation für globale und regionale Klimabeobachtung der Atmosphäre: Ergebnisse des Wegener Zentrums Graz, *10. Österr. Klimatag*, Univ. f. Bodenkultur, Vienna, Austria, March 2008.

Kirchengast, G., EOPSClim Team, and ARSCLiSys Research Group (invited), Wegener Center Atmospheric Remote Sensing and Climate System (ARSCLiSys) Group: Occultation Activities & EOPSClim, *EOPSClim Final Presentation Meeting*, FFG-ALR, Vienna, Austria, March 2008.

Pirscher, B., B. C. Lackner, I. Thaler, M. Pock, U. Foelsche, **A. K. Steiner**, S. Schweitzer, and G. Kirchengast (invited), Initial validation of GRAS occultation data from MetOp and setup of regional climate monitoring including the IPCC land and ocean regions, *EOPSClim Final Pres. Mtg.*, FFG-ALR, Vienna, March 2008.

2007

Kirchengast, G., and Wegener Center ARSCLiSys Research Group (invited), Past, on-going, and planned occultation activities of the Wegener Center/University of Graz, *Coordination Meeting ESA-FFG/ALR-WegC. WegCenter Occultation Activities*, ESA/ESTEC, Noordwijk, Netherlands, October 2007.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, A. Gobiet, M. Borsche, B. Pirscher, B.C. Lackner, and J. Fritzer (invited), GPS Radio occultation based climate studies, *22nd GRAS-SAG Meeting, EUMETSAT*, Darmstadt, Germany, September 2007.

Lackner, B. C., **A. K. Steiner**, F. Ladstädter, and G. Kirchengast, Trend indicators of atmospheric climate change based on GCM scenarios and reanalyses, *3rd International Workshop on Occultations for Probing Atmosphere and Climate (OPAC-3)*, Graz, Austria, September 2007.

Ladstädter, F., **A. K. Steiner**, B. C. Lackner, G. Kirchengast, P. Muigg, J. Kehrer, and H. Doleisch (poster), SimVis: An interactive visual field exploration tool applied to climate research, *3rd International Workshop on Occultations for Probing Atmosphere and Climate (OPAC-3)*, Graz, Austria, September 2007.

Lackner, B. C., **A. K. Steiner**, F. Ladstädter, and G. Kirchengast (poster), Trend indicators of atmospheric climate change based on global climate model scenarios, *10th International Meeting on Statistical Climatology (IMSC)*, Beijing, China, August 2007.

Borsche M., G. Kirchengast, **A. K. Steiner**, and U. Foelsche, (poster), Estimation of the sampling error of a CHAMP radio occultation temperature climatology based on an empirical approach using ECMWF analyses, *Geophysical Research Abstracts*, Vol. 9, EGU2007-A-10007, *European Geosciences Union, General Assembly 2007*, Vienna, Austria, April 2007.

Foelsche, U., M. Borsche, B. Pirscher, **A. K. Steiner**, J. Wickert, and G. Kirchengast, Climate monitoring with CHAMP and FORMOSAT-3/COSMIC radio occultation data, *Geophysical Research Abstracts*, Vol. 9, EGU2007-A-06987, *European Geosciences Union General Assembly 2007*, Vienna, Austria, April 2007.

Lackner B.C., B. Pirscher, **A. K. Steiner**, and G. Kirchengast (poster), Comparison of principal component analysis and factor analysis in climate research, *Geophysical Research Abstracts*, Vol. 9, EGU2007-A-09967, *European Geosciences Union, General Assembly 2007*, Vienna, Austria, April 2007.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, A. Gobiet, M. Borsche, B. Pirscher, B.C. Lackner, and J. Fritzer (invited), GPS radio occultation based climate studies, supported by EGOPS, *ESA-ProdexCN1 Final Presentation Meeting, ESA/ESTEC*, Noordwijk, Netherlands, March 2007.

Kirchengast, G., S. Schweitzer, U. Foelsche, **A. K. Steiner**, B. Pirscher, M. Borsche, and A. Gobiet (invited), Wegener Center – Recent results from occultation research and climate studies, *21st Meeting of the ESA/EUMETSAT GNSS Receiver for Atmospheric Sounding Science Advisory Group (GRAS-SAG)*, ESA/ESTEC, Noordwijk, Netherlands, January 2007.

2006

Kirchengast, G., S. Schweitzer, M. Loiselet, A. von Engeln, U. Foelsche, **A. K. Steiner**, B. Pirscher, M. Borsche, and A. Gobiet (invited), GPS radio occultation climate research results from the Wegener Center and “News from Europe”, *3rd Workshop on Emerging Science Applications of Measurements from GPS/GNSS and GPS-like Signals: GPS Radio Occultations as Climate Benchmark Observations at the American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA, USA, December 2006.

Foelsche, U., M. Borsche, B. Pirscher, **A. K. Steiner**, A. Gobiet, J. Wickert, T. Schmidt, and G. Kirchengast (invited), Climate monitoring with radio occultation data: From CHAMP to FORMOSAT-3/COSMIC, *FORMOSAT-3/COSMIC Workshop 2006 – Early Results and IOP*, Campagni, Taipeh, Taiwan, November 2006.

Foelsche, U., M. Borsche, **A. K. Steiner**, A. Gobiet, B. Pirscher, J. Wickert, T. Schmidt, and G. Kirchengast, Global climatologies based on RO data from CHAMP and FORMOSAT-3/COSMIC, *First FORMOSAT-3/COSMIC Data Users Workshop*, Boulder, CO, USA, October 2006.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, M. Schwärz, M. Pock, J. Wickert, T. Schmidt, K.B. Lauritsen, A. Löscher, B. Kuo, C. Rocken, J. Jungclaus, L. Kornblueh, G. C. Hegerl, H. Hauser, H. Doleisch, R. Giering, T. Kaminski, J. Marotzke, B. H. Lambrigtsen, C. Retscher, and S. S. Leroy (invited). EPSCLIM – Climate variability and change analysis and climate model validation supported by EPS/MetOp GRAS and IASI data, *1st EPS/MetOp RAO Workshop*, ESA/ESRIN, Frascati, Italy, May 2006.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, M. Schwaerz, J. Wickert, L. Kornblueh, K.B. Lauritsen, A. Loescher, and B. H. Lambrigtsen (invited), GRASIVal - Contribution to EPS GRAS and IASI Cal/Val by independent retrieval algorithms and comparison to short-term reference climatologies, *1st EPS/MetOp RAO Workshop*, ESA/ESRIN, Frascati, Italy, May 2006.

Borsche, M., G. Kirchengast, U. Foelsche, A. Gobiet, **A. K. Steiner**, T. Schmidt, and J. Wickert (poster), Tropical tropopause variability from four years of CHAMP radio occultation data, *Geophysical Research Abstracts Vol. 8, 09592, EGU General Assembly 2006*, Vienna, Austria, April 2006.

Foelsche, U., M. Borsche, A. Gobiet, **A. K. Steiner**, B. C Lackner, B. Pirscher, G. Kirchengast, J. Wickert, and T. Schmidt, Climatologies of the global atmosphere based on radio occultation data from CHAMP, *Geophysical Research Abstracts, Vol. 8, 09483, EGU General Assembly 2006*, Vienna, Austria, April 2006.

Kirchengast, G., U. Foelsche, M. Borsche, **A. K. Steiner**, B. Pirscher, B. C. Lackner, A. Gobiet, and A. Leuprecht (invited), CHAMP RO climatologies for monitoring climate variability and change and preparations for Metop/GRAS and COSMIC, *20th GRAS-SAG Meeting*, EUMETSAT, Darmstadt, Germany, March 2006.

Foelsche, U., M. Borsche, **A. K. Steiner**, A. Löscher, B. Pirscher, B. C. Lackner, A. Gobiet, and G. Kirchengast, Klima-Monitoring mit Radio-Okkultationsdaten des Satelliten CHAMP, *9. Österr. Klimatag*, Univ. f. Bodenkultur, Vienna, Austria, March 2006.

2005

Foelsche, U., A. Gobiet, **A. K. Steiner**, G. Kirchengast, M. Borsche, B. Pirscher B. C. Lackner, T. Schmidt, and J. Wickert (poster), Towards benchmark climatologies of the global atmosphere with radio occultation data from CHAMP, *Eos Trans. AGU, 86(52), Fall Meet. Suppl., Abstract U21A-0807, American Geophysical Union (AGU) Fall Meeting 2005*, San Francisco, CA, USA, December 2005.

Borsche M., A. Gobiet, **A. K. Steiner**, U. Foelsche, G. Kirchengast, T. Schmidt, and J. Wickert (poster), Tropical tropopause variability from three years of CHAMP radio occultation data, *Summer School Cargese*, Korsika, October 2005.

Gobiet, A., G. Kirchengast, U. Foelsche, **A. K. Steiner**, M. Borsche, J. Wickert, Monitoring climate change: Climate benchmark measurements from space and CHAMP climatology results, *19th GRAS-SAG Meeting*, EUMETSAT, Darmstadt, Germany, July 2005.

Foelsche, U., A. Gobiet, **A. K. Steiner**, G. Kirchengast, M. Borsche, J. Wickert (poster), CHAMPCLIM: Observing climate with CHAMP radio occultation data, *Geophysical Research Abstracts, Vol. 7, 04856, EGU General Assembly 2005*, Vienna, Austria, April 2005.

Gobiet, A., U. Foelsche, **A. K. Steiner**, M. Borsche, G. Kirchengast, J. Wickert, Validation of stratospheric temperatures in ECMWF analyses with CHAMP radio occultation climatologies, *Geophysical Research Abstracts, Vol. 7, 09047, EGU General Assembly 2005*, Vienna, Austria, April 2005.

Borsche, M., U. Foelsche, G. Kirchengast, A. Gobiet, and **A. K. Steiner**, Global climate monitoring with radio occultation data: The CHAMPCLIM project, *65. Jahrestagung der Deutschen Geophysikalischen Gesellschaft*, Graz, Austria, Februar 2005.

2004

Foelsche, U., A. Gobiet, **A. K. Steiner**, G. Kirchengast, M. Borsche, T. Schmidt, and J. Wickert, Climate monitoring with CHAMP radio occultation data: The CAMPCLIM project, *Eos Trans. AGU, 85(47), Fall Meet. Suppl., Abstract SF53A-0728, AGU Fall Meeting 2004*, San Francisco, CA, USA, December 2004.

Gobiet, A., **A. K. Steiner**, U. Foelsche, and G. Kirchengast (invited), Radio occultation data processing advancements for optimizing climate utility: Stratospheric retrieval advances, *CHAMPCLIM-Part 1 Final Presentation Meeting*, ASA/FFG, Vienna, Austria, November 2004.

Foelsche, U., A. Gobiet, **A. K. Steiner**, G. Kirchengast, M. Borsche, T. Schmidt, J. Wickert, Global climatologies based on radio occultation data: The CHAMPCLIM project, *2nd Int'l Workshop on Occultations for Probing Atmosphere and Climate (OPAC-2)*, Graz, Austria, September 2004.

Foelsche, U., G. Kirchengast, **A. K. Steiner**, L. Kornblueh and E. Manzini (poster), Testing the climate change monitoring utility of GNSS occultations by long-term simulations, *2nd Int'l Workshop on Occultations for Probing Atmosphere and Climate (OPAC-2)*, Graz, Austria, September 2004.

Borsche, M., A. Gobiet, **A. K. Steiner**, U. Foelsche, G. Kirchengast, T. Schmidt and J. Wickert (poster), Pre-operational retrieval of radio occultation based climatologies within the CHAMPCLIM project, *2nd Int'l Workshop on Occultations for Probing Atmosphere and Climate (OPAC-2)*, Graz, Austria, September 2004.

Gobiet, A., U. Foelsche, **A. K. Steiner**, M. Borsche, T. Schmidt, A. Löscher, G. Kirchengast and J. Wickert, Radio occultation based climatologies: Status of the CHAMPCLIM project and first results from the summer season 2003, *Joint CHAMP/GRACE Science Meeting GFZ*, Potsdam, Germany, July 2004.

Foelsche, U., G. Kirchengast, **A. K. Steiner**, L. Kornblueh, and E. Manzini (poster), Monitoring climate change with GNSS occultations: A 25-year (2001-2025) simulation study, *1st International CLIVAR Conference*, Baltimore, MD, USA, Juni 2004.

Foelsche, U., G. Kirchengast, **A. K. Steiner**, L. Kornblueh, and E. Manzini, Monitoring climate with small constellations of GNSS receivers: A simulation study, *ROCSAT3/COSMIC Radio Occultation Science Workshop (II)*, Lung Tan, Taiwan, May 2004.

Foelsche, U., G. Kirchengast, A. Gobiet, **A. K. Steiner**, A. Löscher, M. Borsche, J. Wickert, and T. Schmidt, Das CHAMPCLIM Projekt - Klimabeobachtung mit Satelliten, *8. Österreichischer Klimatag*, Universität für Bodenkultur, Vienna, Austria, April 2004.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, L. Kornblueh, E. Manzini, Climate change monitoring by GNSS occultation: A 25-year (2001-2025) simulation study on temperature trend detection, *Geophysical Research Abstracts*, Vol. 6, 05127, *EGU General Assembly 2004*, Vienna, Austria, April 2004.

2003

Foelsche U., A. Gobiet, A. Löscher, G. Kirchengast, **A. K. Steiner**, J. Wickert, and T. Schmidt (poster), The CHAMPCLIM project: An overview, *2nd CHAMP science meeting*, Potsdam, Germany, September 2003.

Foelsche, U., G. Kirchengast, **A. K. Steiner**, and A. Gobiet (poster), Observing climate change with the radio occultation technique: From simulation studies to satellite constellations, *30th International Symposium on Remote Sensing of the Environment*, Honolulu, Hawaii, USA, November 2003.

Wickert J., A. Gobiet, G. Beyerle, **A. K. Steiner**, G. Kirchengast, U. Foelsche, and T. Schmidt, GPS radio occultation with CHAMP: Comparison of atmospheric profiles from GFZ Potsdam and IGAM Graz, *2nd CHAMP science meeting*, Potsdam, Germany, September 2003.

Kirchengast, G., U. Foelsche, **A. K. Steiner**, A. Gobiet, Watching climate change: Towards global climate monitoring using GPS occultation data from CHAMP and SAC-C, *23rd General Assembly of the International Union of Geodesy and Geophysics (IUGG)*, Sapporo, Japan, July 2003.

Kirchengast, G., and the EGOPS Development Team (J. Ramsauer, J. Fritzer, W. Poetzi, **A. Steiner**, U. Foelsche, P. Silvestrin, S. Syndergaard, M. Gorbunov, G. Larsen, K. Schultz, L. Kornblueh, H. Reichinger, S. Healy, S. Schweitzer, A. Gobiet, M. Schwaerz, M. Lohmann, A. Nielsen, L. Olsen, P. Eriksson, L. Gradinarsky, T. Kuhn, C. Melsheimer, S. Leroy, et al.) (invited), The end-to-end occultation sounding simulator EGOPS - from EGOPS4 to EGOPS5, *Mid-Term Review Meeting of the ESA ACE+ Phase A Sci. Support (ACEPASS) Study on LEO-LEO occultation characteriz.*, ESA/ESTEC, Noordwijk, NL, May 2003.

2002

Foelsche, U., G. Kirchengast, **A. K. Steiner**, A. Gobiet, A. Löscher, C. Bichler, J. Wickert, G. Beyerle, L. Kornblueh, M. Gorbunov, S. Syndergaard, and A. Hauchecorne (invited), Global climate monitoring based on CHAMP/GPS radio occultation data, *1st CHAMP Science Meeting*, Potsdam, Germany, January 2002.

Kirchengast, G., W. Pötzl, J. Ramsauer, J. Fritzer, **A. K. Steiner**, P. Silvestrin, S. Syndergaard, M. Gorbunov, G. B. Larsen, K. Schultz, L. Kornblueh, H. Reichinger, and S. Healy (invited), The End-to-end GNSS Occultation Performance Simulator version 4 (EGOPS4): Overview, exemplary applications, and future avenues, *Int'l Presentation Meeting of the ESA EGOPS Extension Study*, ESA/ESTEC, Noordwijk, Netherlands, March 2002.

Gobiet, A., G. Kirchengast, U. Foelsche, **A. K. Steiner**, and A. Löscher, Advancements of GNSS occultation retrieval in the stratosphere for climate monitoring, *2002 EUMETSAT Meteorol. Satellite Data Users Conference*, Dublin, Ireland, September 2002.

Foelsche, U., G. Kirchengast, **A. K. Steiner** (invited), Klimawandel-Monitoring mit satellitengetragenen GNSS Okkultationssensoren, *7tes Österr. Klimakolloquium, Univ. f. Bodenkultur, Vienna, Austria*, March 2002.

2001

Foelsche, U., G. Kirchengast, **A. K. Steiner**, L. Kornblueh, E. Manzini, and L. Bengtsson, Error analysis for climate change monitoring by GNSS occultation sensors, *Geophysical Research Abstracts*, Vol. 3, *26th Gen. Assembly of the Europ. Geophys. Society (EGS)*, Nice, France, March 2001.

Kirchengast, G., W. Pötzl, J. Ramsauer, **A. K. Steiner**, S. Syndergaard, M. Gorbunov, G.B. Larsen, K. Schultz, H. Reichinger, and P. Silvestrin, EGOPS4 - An end-to-end simulator for atmospheric sounding based on GNSS signals, *26th Gen. Assembly of the Europ. Geophys. Society (EGS)*, Nice, France, March 2001.

Kirchengast, G., **A. K. Steiner**, U. Foelsche, L. Kornblueh, E. Manzini, and L. Bengtsson (invited), Climate change monitoring by GNSS occultation: An observing system simulation experiment, *American Geophys. Union (AGU) 2001 Spring Meeting*, Boston, MA, USA, May 2001.

Foelsche, U., G. Kirchengast, **A. K. Steiner**, L. Kornblueh, E. Manzini, and L. Bengtsson (poster), Klimawandel-Monitoring mit satellitengetragenen GNSS Okkultationssensoren, *DACH (deutsch-österr.-schweiz.) Meteorologentagung 2001*, Vienna, Austria, September 2001.

2000

Kirchengast, G., **A. K. Steiner**, U. Foelsche, L. Kornblueh, E. Manzini, and L. Bengtsson, Spaceborne climate change monitoring by GNSS occultation sensors, *11th Symp. on Global Change Studies*, American Met. Society (AMS) 2000 Annual Meeting, Long Beach, CA, USA, January 2000.

Kirchengast, G., W. Pötzl, J. Ramsauer, A. Veronig, M. Gorbunov, G. Holler, **A. K. Steiner**, S. Syndergaard, G.B. Larsen, P. Hoeg, P. Silvestrin, and A. Tobias (invited), The End-to-end GNSS Occultation Performance Simulator (EGOPS) version 3, *2nd Int'l Seminar on Radio Occultation with GNSS*, ESA/ESTEC, Noordwijk, Netherlands, January 2000.

Kirchengast, G., **A. K. Steiner**, U. Foelsche, L. Kornblueh, E. Manzini, and L. Bengtsson, A climate monitoring observing system simulation experiment with GNSS radio occultation data, *2nd Int'l Seminar on Radio Occultation with GNSS*, ESA/ESTEC, Noordwijk, Netherlands, January 2000.

1999

Kirchengast, G., **A. K. Steiner**, U. Foelsche, L. Kornblueh, E. Manzini, and L. Bengtsson, GNSS occultation sounding for climate monitoring and atmospheric change analysis, *22nd General Assembly of the International Union of Geodesy and Geophysics (IUGG)*, Birmingham, U.K., July 1999.

Kirchengast, G., **A. K. Steiner**, L. Kornblueh, E. Manzini, and L. Bengtsson, GNSS occultation sounding for climate monitoring and atmospheric change analysis, *26th Gen. Assembly of the Int'l Union of Radio Science (URSI)*, Toronto, Canada, August 1999.

1998

Kirchengast, G., J. Ramsauer, W. Mühlmann, G. Holler, K. Holler, W. Rothleitner, K. Hocke, **A. K. Steiner**, U. Foelsche, K. Schultz, D. Hansen, L. Maresi, S. Syndergaard, M. Mortensen, P. Hoeg, P. Silvestrin, J. Fuchs, and A. Tobias (invited), The End-to-end GNSS Occultation Performance Simulator EGOPS – Overview and exemplary applications, *1st Int'l Seminar on Atmospheric Sounding by Radio Occultation*, ESA/ESTEC, Noordwijk, Netherlands, January 1998.

Kirchengast, G., R. Leitinger, K. Hocke, **A. K. Steiner**, H.-P. Ladreiter, and W. Rothleitner, Ionospheric corrections and ionospheric applications of radio occultation data, *1st Int'l Seminar on Atmospheric Sounding by Radio Occultation*, ESA/ESTEC, Noordwijk, Netherlands, January 1998.

Kirchengast, G., J. Ramsauer, W. Mühlmann, G. Holler, K. Holler, W. Rothleitner, K. Hocke, **A. K. Steiner**, U. Foelsche, K. Schultz, D. Hansen, L. Maresi, S. Syndergaard, M. Mortensen, P. Hoeg, P. Silvestrin, J. Fuchs, and A. Tobias, An end-to-end occultation sounding simulator: Overview and exemplary results, *23rd Gen. Assembly of the Europ. Geophys. Society (EGS)*, Nice, France, April 1998.

1997

Kirchengast, G., and **A. K. Steiner**, Methods for ionospheric correction of GNSS occultation data under adverse conditions, *Joint Progress Meeting of the ESA Studies on Atmospheric Sounding using GNSS Occultation*, ESA/ESTEC, Noordwijk, Netherlands, January 1997.

Kirchengast, G., J. Ramsauer, W. Mühlmann, G. Holler, K. Holler, K. Hocke, **A. K. Steiner**, U. Foelsche, K. Schultz, L. Maresi, S. Syndergaard, M. Mortensen, P. Hoeg, P. Silvestrin, and A. Tobias, End-to-end GNSS occultation performance simulation, *22nd Gen. Assembly of the Europ. Geophys. Society (EGS)*, Vienna, Austria, April 1997.

Hocke, K., G. Kirchengast, and **A. K. Steiner** (poster), Inversion of GPS/MET data – problems and solutions, *22nd Gen. Assembly of the Europ. Geophys. Society (EGS)*, Vienna, Austria, April 1997.