

[[Welcome](#)] [[Group](#)] [[Research](#)] [[Publications](#)] [[CV](#)] [[MISC](#)] [[My Christian Blog](#)]

Publications

See also [AMS>Mathscinet>Potthast, R](#) or [R Potthast on Google Scholar](#) or [Scopus](#), ResearcherID: F-2265-2013, compare <http://www.researcherid.com/rid/F-2265-2013> or [Orcid: http://orcid.org/0000-0001-6794-2500](http://orcid.org/0000-0001-6794-2500), [Roland on Mendeley](#).

Note that citation rates vary by a large factor between disciplines [average citation rates](#).



Books

- Gen Nakamura and Roland Potthast: [Inverse Modeling - An introduction to the theory and methods of inverse problems and data assimilation](#), IOP Ebook Series 2015, 550 pages, 200 images, 170 codes. [Book on Amazon](#) **more than 20000 full book downloads!**
- Coombes, S., beim Graben, P., Potthast, R., Wright, J. (Eds.): [Neural Fields - Theory and Applications](#). Springer 2014 ... **more than 25500 downloads!**
- Potthast, R.: [Point-sources and Multipoles in Inverse Scattering](#), Chapman & Hall, London 2001.

Correspondence Courses

Among various lecture notes for basically all my lectures, I have written more elaborate correspondence courses:

- [Managers Introduction to Information Technology](#), Correspondence Course for the [Henley Management College](#), Henley-On-Thames, Oxfordshire, UK (2000).
- [Mathematical Foundations of Public Policy](#), Correspondence Course, University of Erfurt 2002.

Preprints and Current Work

- Qazi Muhammad Zaigham Zia and Roland W.E. Potthast: [A Contraction Scheme for Shape Reconstruction Problems in Inverse Fluid Dynamics](#), Submitted.
- Michael Bender, Andreas Rhodin, Christoph Schraff, Klaus Stephan, and Roland Potthast: [A Slant Total Delay Observation Operator for ICON and COSMO](#), Submitted.

Research Notes: [research_notes](#) ...

Papers on hold (most is now in the book Inverse Modeling): [other_work_ongoing](#) ...

More Generic Information on Publishing and Metrics

Average citation rates up to 2010 in Mathematics for articles written between 2000 and 2010 ¹⁾ - meaning that an article written in 2000 has 6.76 citations on average until 2010:



2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
6.76	6.05	5.99	5.39	4.80	4.19	3.36	2.51	1.67	0.86	0.14

leading to an average citation per article of 3.48 in a decade.

Author Citations for Roland W. E. Potthast
 Roland W. E. Potthast is cited 1001 times by 486 authors
 in the MR Citation Database

Most Cited Publications	
Citations	Publication
126	MR1853728 (2002j:35313) Potthast, Roland Point sources and multipoles in inverse scattering theory. <i>Chapman & Hall/CRC Research Notes in Mathematics</i> , 427. Chapman & Hall/CRC, Boca Raton, FL, 2001. xii+261 pp. ISBN: 1-58488-252-2 (Reviewer: Vladislav G. Dubrovskiy) 35R30 (35J15 35P25 47G10 76Q05 78A46)
...	MR1483999 (99b:35209) Colton, David; Piana, Michele; Potthast, Roland A simple method using Horozov's

For the full research articles below in 07/2019 around 1884 citations are recorded by Scopus, which is an average of more than 18 citations per article with an h-index of 23. Google Scholar records 3791 citations, an h-

index of 32 and an i10-index of 65. The map on the right indicates the location of institutions citing the articles. The citation list of the MathSciNet database is indicated below.

Today, often citation metrics play an important role in judging scientists. But we need to understand that citation counts rather reflect the activity in some layer of science or some particular field rather than the quality of the science of a researcher.

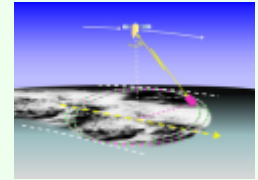
Research Journal Papers

2019

- J. Otkin and R. Potthast: Assimilation of All-Sky SEVIRI Infrared Brightness Temperatures in a regional-scale Ensemble Data Assimilation System“, MWR Monthly Weather Review, accepted for publication [PDF](#)
- Yves-Marie Saint-Drenan, Stephan Vogt, Sven Killinger, Jamie M. Bright, Rafael Fritz, Roland Potthast: Bayesian parameterisation of a regional photovoltaic model – Application to forecasting, Solar Energy 2019 [PDF](#)
- J. Waller, E. Bauernschubert, S.L. Dance, N.K. Nichols, R. Potthast and D. Simonin: Observation error statistics for Doppler Radar radial wind superobservations assimilated into the DWD COSMO-KENDA system, Monthly Weather Review 2019, [PDF](#).
- Peter Jan van Leeuwen Hans R. Künsch Lars Nerger Roland Potthast Sebastian Reich: Particle filters for high-dimensional geoscience applications: A review, QJRMS 2019 <https://rmets.onlinelibrary.wiley.com/doi/abs/10.1002/qj.3551>
- Roland Potthast, Anne Walter and Andreas Rhodin: [A Localised Adaptive Particle Filter within an Operational NWP Framework](#). Monthly Weather Review 2018, <https://doi.org/10.1175/MWR-D-18-0028.1>.

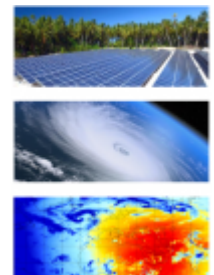
2018

- Yaodeng Chen, Deming Meng, Hongli Wang, Roland Potthast, Yuanbing Wang, Yufang Gao: [The Evaluation of EnVar Method Included Hydrometeors Analysis Variables for Assimilating Cloud Liquid/Ice Water Path on Prediction of Rainfall Events](#), Atmospheric Research (Elsevier) 2018, accepted for publication.
- N. Udosen and R. Potthast: [A framework for solving meta inverse problems: experimental design and application to an acoustic source problem](#), Modeling Earth Systems and Environment 2018. <https://doi.org/10.1007/s40808-018-0541-y>
- A. J. Illingworth, D. Cimini, A. Haefele, M. Haeffelin, M. Hervo, S. Kotthaus, U. Löhnert, P. Martinet, I. Mattis, E. J. O'Connor, and R. Potthast: [How can Existing Ground-Based Profiling Instruments Improve European Weather Forecasts?](#) BAMS 2018, <https://doi.org/10.1175/BAMS-D-17-0231.1>.
- Axel Hutt und Roland Potthast: [Forecast of spectral features by ensemble data assimilation](#), Frontiers in Applied Mathematics and Statistics, section Dynamical Systems, 2018. <https://doi.org/10.3389/fams.2018.00052>
- Roland Potthast und Christian Welzbacher: [Ultra Rapid Data Assimilation based on Ensemble Filters](#), Frontiers in Applied Mathematics and Statistics, 2018. doi.org/10.3389/fams.2018.00045 [Web](#).
- Ndifreke Udosen, Roland Potthast: [Automated optimization of electrode locations for electrical resistivity tomography](#), 2018 Modeling Earth Systems and Environment, pp 1-25; doi:10.1007/s40808-018-0472-7 [PDF](#)
- Jehan Alswaihli, Roland Potthast, Axel Hutt, Douglas Saddy, and Ingo Bojak. [Kernel reconstruction for delayed neural field equations](#). The Journal of Mathematical Neuroscience (JMN), accepted. [Web](#) [PDF](#)



- Anthony Illingworth, Ph.D.; Alessandro Battaglia; John Bradford; Mary Forsythe; Paul Joe; Pavlos Kollias; Katie Lean; Maurizio Lori; Jean-Francois Mahfouf; Stella Mello; Rolf Midthassel; Yvonne Munro; John Nicol; Roland Potthast; Michael Rennie; Thorwald Stein; Simone Tanelli; Frederic Tridon; Christopher Walden; Mengistu Wolde, [WIVERN: A new satellite concept to provide global in-cloud winds, precipitation and cloud properties](#). BAMS. Accepted. [Web PDF](#)
- Frederik Kurzrock, Sylvain Cros, Fabrice Chane-Ming, Jason A. Otkin, Laurent Linguet, Axel Hutt, Gilles Lajoie, Roland Potthast: [Cloudy Data Assimilation: A Review of the Use of Cloud-Affected Observations from Geostationary Satellites in Regional-Scale Models](#), Meteorologische Zeitung, DOI: [10.1127/metz/2018/0904](https://doi.org/10.1127/metz/2018/0904).

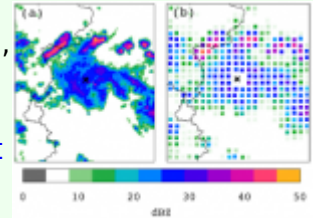
2017



- In-Hyuk Kwon, Ph.D.; Stephen English; William Bell; Roland Potthast; Andrew Collard; Benjamin Ruston: [Assessment of Progress and Status of Data Assimilation in NWP](#), BAMS. Accepted. [Web PDF](#)
- Jason A Otkin; Roland Potthast; Amos Lawless: [Nonlinear Bias Correction for Satellite Data Assimilation Using Taylor Series Polynomials](#) MWR-D-17-0171, Monthly Weather Review, accepted. [PDF](#)
- Armin Geisinger, Andreas Behrendt, Volker Wulfmeyer, Jens Strohbach, Jochen Förstner, and Roland Potthast: [Development and Application of a Backscatter Lidar Forward Operator for Quantitative Validation of Aerosol Dispersion Models and Future Data Assimilation](#), Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2017-142>, 2017, Revised manuscript accepted for AMT. Previously discussion paper: <http://www.atmos-chem-phys-discuss.net/acp-2016-609/>
- Aamir Nadeem, Roland Potthast and Andreas Rhodin: [On Sequential Multiscale Inversion and Data Assimilation](#), Journal of Computational and Applied Mathematics (CAM), accepted. [PDF](#)
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- Christoph Schraff, Hendrik Reich, Andreas Rhodin, Annika Schomburg, Klaus Stephan, Africa Perianez and Roland Potthast: [Kilometer Scale Ensemble Data Assimilation for the COSMO Model \(KENDA\)](#), QJRMS, Volume 142, Issue 696, pages 1453–1472, April 2016 Part A. [Abstract Online](#)



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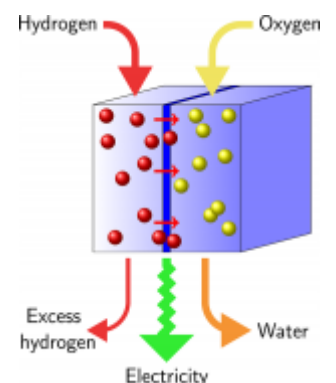
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- Fatih Yaman, Valery G. Yakhno and Roland Potthast: [A Survey on Inverse Problems for Applied Sciences](#), Mathematical Problems in Engineering, Mathematical Methods in Engineering, [PDF](#)



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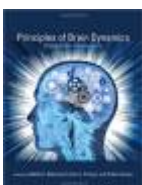


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