Double-ended calibration of fiber-optic Raman spectra distributed temperature sensing data

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#	Paper	IF	Citations
151	Fibre-optic distributed temperature sensing for characterizing the impacts of vegetation coverage on thermal patterns in woodlands. **2012**, 6, n/a-n/a		9
150	Wavelength dispersion analysis on fiber-optic Raman distributed temperature sensor system. **2013**, 3, 256-261		17
149	Thermal, mechanical and chemical influences on the performance of optical fibres for distributed temperature sensing in a hot geothermal well. **2013**, 70, 3465-3480		26
148	Spatial Resolution Improvement of Distributed Raman Temperature Measurement System. **2013**, 13, 4271-4278		15
147	Attenuation auto-correction method in Raman distributed temperature measurement system. *Optical and Quantum Electronics*, **2013**, 45, 1087-1094	2.4	12
146	Impact of seasonal variability and monitoring mode on the adequacy of fiber-optic distributed temperature sensing at aquifer-river interfaces. *Water Resources Research*, **2013**, 49, 2408-2423	5.4	24
145	Measuring artificial recharge with fiber optic distributed temperature sensing. *Ground Water*, **2013**, 51, 670-8	2.4	19
144	Uncertainty assessment of quantifying spatially concentrated groundwater discharge to small streams by distributed temperature sensing. *Water Resources Research*, **2013**, 49, 400-407	5.4	16
143	Resolving centimeter-scale flows in aquifers and their hydrostratigraphic controls. **2013**, 40, 1098-1103		26
142	Measuring heat balance residual at lake surface using Distributed Temperature Sensing. **2013**, 11, 79-90		26
141	The shallow thermal regime of Devils Hole, Death Valley National Park. **2013**, 3, 119-138		10
140	Capabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing. *Water Resources Research*, **2013**, 49, 1741-1745	5.4	18
139	Locating and quantifying spatially distributed groundwater/surface water interactions using temperature signals with paired fiber-optic cables. *Water Resources Research*, **2013**, 49, 7670-7680	5.4	26
138	Upscaling lacustrine groundwater discharge rates by fiber-optic distributed temperature sensing. *Water Resources Research*, **2013**, 49, 7929-7944	5.4	37
137	Autonomous distributed temperature sensing for long-term heated applications in remote areas. **2013**, 2, 71-77		8
136	Reply to comment by J. S. Selker et al. on Capabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing *Water Resources Research*, **2014**, 50, 5375-5377	5.4	1
135	A new method to measure Bowen ratios using high-resolution vertical dry and wet bulb temperature profiles. *Hydrology and Earth System Sciences*, **2014**, 18, 2021-2032	5.5	23

134	Chalcogenide fiber-based distributed temperature sensor with sub-centimeter spatial resolution and enhanced accuracy. *Optics Express*, **2014**, 22, 1560-8	3.3	19
133	A multicore optical fiber for distributed sensing. **2014**,		5
132	Reliability analysis and comparison of demodulation methods for Raman distributed temperature sensor. *Optical and Quantum Electronics*, **2014**, 46, 1595-1608	2.4	1
131	Fiber Optic Monitoring System. **2014**, 145-165		2
130	Understanding process dynamics at aquifer-surface water interfaces: An introduction to the special section on new modeling approaches and novel experimental technologies. *Water Resources Research*, **2014**, 50, 1847-1855	5.4	43
129	Thermal performance and heat transport in aquifer thermal energy storage. **2014**, 22, 263-279		39
128	Induced temperature gradients to examine groundwater flowpaths in open boreholes. *Ground Water*, **2014**, 52, 943-51	2.4	25
127	Adaptive data acquisition algorithm in Raman distributed temperature measurement system. **2014**, 125, 1821-1824		3
126	Correcting artifacts in transition to a wound optic fiber: Example from high-resolution temperature profiling in the Dead Sea. *Water Resources Research*, **2014**, 50, 5329-5333	5.4	9
125	Heated Fiber Optic Distributed Temperature Sensing: A Dual-Probe Heat-Pulse Approach. **2014**, 13, 1-10		25
124	Reply to comment by Francisco Su□ez on □apabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing□*Water Resources Research*, **2014**, 50, 9780-9782	5.4	
123	Comment on □apabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing□by Liliana Rose et al.. *Water Resources Research*, **2014**, 50, 5372-5374	5.4	21
122	Mapping variability of soil water content and flux across 1□000 m scales using the Actively Heated Fiber Optic method. *Water Resources Research*, **2014**, 50, 7302-7317	5.4	51
121	The Application of Advanced Wellbore Monitoring in Coal Seam Gas for Continuous Inflow Profiling. **2014**,		1
120	Comment on □apabilities and limitations of tracing spatial temperature patterns by fiber-optic distributed temperature sensing□by Liliana Rose et al.. *Water Resources Research*, **2014**, 50, 9777-9779	5.4	2
119	Distributed temperature sensing (DTS) als Messverfahren in Landoberfl□henhydrologie und Siedlungswasserwirtschaft. **2015**, 67, 447-456		1
118	A field comparison of multiple techniques to quantify groundwater□urface-water interactions. **2015**, 34, 139-160		57
117	. **2015**, 27, 2182-2185		22

116	Near-Surface Motion in the Nocturnal, Stable Boundary Layer Observed with Fibre-Optic Distributed Temperature Sensing. **2015**, 154, 189-205		43
115	Fiber optic distributed temperature sensing for the determination of air temperature. *Atmospheric Measurement Techniques*, **2015**, 8, 335-339	4	30
114	An active heat tracer experiment to determine groundwater velocities using fiber optic cables installed with direct push equipment. *Water Resources Research*, **2015**, 51, 2760-2772	5.4	35
113	Determining soil moisture by assimilating soil temperature measurements using the Ensemble Kalman Filter. **2015**, 86, 340-353		18
112	Dynamic Calibration of a Fiber-Optic Distributed Temperature Sensing Network at a District-Scale Geothermal Exchange Borefield. **2016**,		1
111	Practical considerations for enhanced-resolution coil-wrapped distributed temperature sensing. **2016**, 5, 151-162		14
110	Identifying and Correcting Step Losses in Single-Ended Fiber-Optic Distributed Temperature Sensing Data. **2016**, 2016, 1-10		11
109	Interpreting Variations in Groundwater Flows from Repeated Distributed Thermal Perturbation Tests. *Ground Water*, **2016**, 54, 559-68	2.4	6
108	Field Methods for the Evaluation of Groundwater and Surface-Water Interactions. **2016**, 749-767		
107	Distributed temperature measurement using a dual-core fiber with an integrated miniature turn-around. **2016**,		1
106	Mapping high-resolution soil moisture and properties using distributed temperature sensing data and an adaptive particle batch smoother. *Water Resources Research*, **2016**, 52, 7690-7710	5.4	12
105	Distributed Temperature Sensing as a downhole tool in hydrogeology. *Water Resources Research*, **2016**, 52, 9259-9273	5.4	68
104	Heat as a tracer to quantify processes and properties in the vadose zone: A review. **2016**, 159, 358-373		27
103	Three-dimensional dense distributed temperature sensing for measuring layered thermohaline systems. *Water Resources Research*, **2016**, 52, 6656-6670	5.4	10
102	High temperature measurements in irradiated environment using Raman fiber-optics distributed temperature sensing. **2016**,		1
101	Estimating soil moisture and soil thermal and hydraulic properties by assimilating soil temperatures using a particle batch smoother. **2016**, 91, 104-116		19
100	Development of in-aquifer heat testing for high resolution subsurface thermal-storage capability characterisation. *Journal of Hydrology*, **2016**, 534, 113-123	6	12
99	Using distributed temperature sensing to monitor field scale dynamics of ground surface temperature and related substrate heat flux. *Agricultural and Forest Meteorology*, **2016**, 220, 207-215	5.8	23

98	Evaluation of inert tracers in a bedrock fracture using ground penetrating radar and thermal sensors. *Geothermics*, **2017**, 67, 86-94	4.3	20
97	Ultrahigh Temperature Raman-Based Distributed Optical Fiber Sensor With Gold-Coated Fiber. **2017**, 23, 296-301		9
96	Development of facilities and methods for the metrological characterization of distributed temperature sensing systems based on optical fibres. **2017**, 28, 015009		5
95	Optical Sensors for the Exploration of Oil and Gas. **2017**, 35, 3538-3545		41
94	Quantitative analysis of the radiation error for aerial coiled-fiber-optic distributed temperature sensing deployments using reinforcing fabric as support structure. *Atmospheric Measurement Techniques*, **2017**, 10, 2149-2162	4	10
93	Dynamic Calibration for Permanent Distributed Temperature Sensing Networks. **2018**, 18, 2342-2352		7
92	A high resolution measurement of the morning ABL transition using distributed temperature sensing and an unmanned aircraft system. **2018**, 18, 683-693		15
91	Multilayer-concept thermal response test: Measurement and analysis methodologies with a case study. *Geothermics*, **2018**, 71, 178-186	4.3	15
90	Estimating Travel Time in Bank Filtration Systems from a Numerical Model Based on DTS Measurements. *Ground Water*, **2018**, 56, 288-299	2.4	9
89	Low flow controls on stream thermal dynamics. **2018**, 68, 157-167		7
88	Mesocosm experiments reveal the direction of groundwater‐surface water exchange alters the hyporheic refuge capacity under warming scenarios. **2018**, 63, 165-177		8
87	Mesocosm experiments identifying hotspots of groundwater upwelling in a water column by fibre optic distributed temperature sensing. **2018**, 32, 185-199		3
86	Distributed Thermal Response Tests Using a Heating Cable and Fiber Optic Temperature Sensing. **2018**, 11, 3059		13
85	Evaluation of Sensitivity of Downhole Temperature Estimates From Distributed Temperature Sensing Measurements. **2018**, 154, 106-111		3
84	Fiber-Optic Sensing for Environmental Applications: Where We Have Come From and What Is Possible. *Water Resources Research*, **2018**, 54, 8552-8557	5.4	24
83	Skin Effect of Fresh Water Measured Using Distributed Temperature Sensing. **2018**, 10, 214		5
82	A double-ended Raman temperature measurement method for hazardous chemicals warehouse. **2018**, 169, 62-68		4
81	NARX neural network model for strong resolution improvement in a distributed temperature sensor. *Applied Optics*, **2018**, 57, 5859-5864	1.7	9

80	Uchimizu: A Cool(ing) Tradition to Locally Decrease Air Temperature. **2018**, 10, 741		3
79	Use of fiber-optic distributed temperature sensing to investigate erosion of the non-convective zone in salt-gradient solar ponds. **2018**, 170, 499-509		2
78	Distributed Temperature Sensing for Soil Physical Measurements and Its Similarity to Heat Pulse Method. **2018**, 148, 173-230		29
77	Error correction of temperature measurement data obtained from an embedded bifilar optical fiber network in concrete dams. **2019**, 148, 106903		2
76	Comparative Experimental Study of a High-Temperature Raman-Based Distributed Optical Fiber Sensor with Different Special Fibers. *Sensors*, **2019**, 19,	3.8	17
75	Raman Distributed Temperature Sensor with Optical Dynamic Difference Compensation and Visual Localization Technology for Tunnel Fire Detection. *Sensors*, **2019**, 19,	3.8	20
74	Temperature measurements along a vertical borehole heat exchanger: A method comparison. *Renewable Energy*, **2019**, 143, 1247-1258	8.1	9
73	High-Resolution Observations of Subsurface Fronts and Alongshore Bottom Temperature Variability Over the Inner Shelf. **2019**, 124, 593-614		3
72	Estimation of the Variation in Specific Discharge Over Large Depth Using Distributed Temperature Sensing (DTS) Measurements of the Heat Pulse Response. *Water Resources Research*, **2019**, 55, 811-826	5.4	16
71	Chemically modified optical fibers in advanced technology: An overview. **2019**, 115, 404-432		28
70	Temperature buffering by groundwater in ecologically valuable lowland streams under current and future climate conditions. **2019**, 3, 100031		18
69	Application of distributed temperature sensing for mountain permafrost mapping. **2019**, 30, 113-120		5
68	Characterization of Diffuse Groundwater Inflows into Stream Water (Part II: Quantifying Groundwater Inflows by Coupling FO-DTS and Vertical Flow Velocities). **2019**, 11, 2430		4
67	Dipole and Convergent Single-Well Thermal Tracer Tests for Characterizing the Effect of Flow Configuration on Thermal Recovery. **2019**, 9, 440		2
66	Characterization of Diffuse Groundwater Inflows into Streamwater (Part I: Spatial and Temporal Mapping Framework Based on Fiber Optic Distributed Temperature Sensing). **2019**, 11, 2389		4
65	Novel Instrument for Temperature Measurements in Borehole Heat Exchangers. **2019**, 68, 1062-1070		4
64	Assessing soil water content variability through active heat distributed fiber optic temperature sensing. **2019**, 212, 193-202		8
63	Watershed-scale mapping of fractional snow cover under conifer forest canopy using lidar. **2019**, 222, 34-49		15

62	A Comparison of Tools and Methods for Estimating Groundwater-Surface Water Exchange. **2020**, 40, 24-34		5
61	Advanced thermal response tests: A review. **2020**, 119, 109575		20
60	Towards Improved Field Application of Using Distributed Temperature Sensing for Soil Moisture Estimation: A Laboratory Experiment. *Sensors*, **2019**, 20,	3.8	3
59	Wintertime Coastal Upwelling in Lake Geneva: An Efficient Transport Process for Deepwater Renewal in a Large, Deep Lake. **2020**, 125, e2020JC016095		6
58	The Heat Pulse Method for Soil Physical Measurements: A Bibliometric Analysis. **2020**, 10, 6171		6
57	A Review of Measurement Calibration and Interpretation for Seepage Monitoring by Optical Fiber Distributed Temperature Sensors. *Sensors*, **2020**, 20,	3.8	11
56	Combining fiber optic DTS, cross-hole ERT and time-lapse induction logging to characterize and monitor a coastal aquifer. *Journal of Hydrology*, **2020**, 588, 125050	6	15
55	Spring discharge and thermal regime of a groundwater dependent ecosystem in an arid karst environment. *Journal of Hydrology*, **2020**, 587, 124947	6	3
54	A multi-technique approach to determine temporal and spatial variability of groundwaterstream water exchange. **2020**, 34, 2612-2627		2
53	Stratified thermal response test measurement and analysis. **2020**, 215, 109865		4
52	Experimental and Model-Based Investigation of the Effect of the Free-Surface Flow Regime on the Detection Threshold of Warm Water Inflows. *Water Resources Research*, **2020**, 56, e2018WR023722	5.4	
51	Estimation of Temperature and Associated Uncertainty from Fiber-Optic Raman-Spectrum Distributed Temperature Sensing. *Sensors*, **2020**, 20,	3.8	13
50	Uncertainty analysis of wireless temperature measurement (WTM) in borehole heat exchangers. *Geothermics*, **2021**, 90, 102019	4.3	1
49	Numerical and Experimental Validation of the Applicability of Active-DTS Experiments to Estimate Thermal Conductivity and Groundwater Flux in Porous Media. *Water Resources Research*, **2021**, 57,	5.4	9
48	Multiscaling analysis of Soil Water Content during irrigation events. Comparison between surface and subsurface drip irrigation. *Geoderma*, **2021**, 382, 114777	6.7	4
47	Single-ended self-calibrating Raman-based distributed temperature sensing based on multi-core fiber. **2021**,		
46	SNR enhancement of a Raman distributed temperature sensor using partial window-based non local means method. *Optical and Quantum Electronics*, **2021**, 53, 1	2.4	6
45	Fiber Optic Measurements of Soil Moisture in a Waste Rock Pile. *Ground Water*, **2021**, 59, 549-561	2.4	1

44	Experimental investigation on infrared radiation features of fracturing process in jointed rock under concentrated load. *International Journal of Rock Mechanics and Minings Sciences*, **2021**, 139, 104619	6	5
43	Suitability of fibre-optic distributed temperature sensing for revealing mixing processes and higher-order moments at the forest-air interface. *Atmospheric Measurement Techniques*, **2021**, 14, 2409-2427	4	6
42	BPM-Matlab: an open-source optical propagation simulation tool in MATLAB. *Optics Express*, **2021**, 29, 11819-11832	3.3	6
41	Thermodynamics of a fast-moving Greenlandic outlet glacier revealed by fiber-optic distributed temperature sensing. *Science Advances*, **2021**, 7,	14.3	6
40	Modelling borehole flows from Distributed Temperature Sensing data to monitor groundwater dynamics in fractured media. *Journal of Hydrology*, **2021**, 598, 126450	6	1
39	The NY-Ålesund TurbulencE Fiber Optic eXperiment (NYTEFOX): investigating the Arctic boundary layer, Svalbard. *Earth System Science Data*, **2021**, 13, 3439-3452	10.5	4
38	Single-ended self-calibration high-accuracy Raman distributed temperature sensing based on multi-core fiber. *Optics Express*, **2021**, 29, 34762-34769	3.3	0
37	Optical Fibre-Based Sensors for Oil and Gas Applications. *Sensors*, **2021**, 21,	3.8	3
36	Comparison of three types of fiber optic sensors for temperature monitoring in a groundwater flow simulator. *Sensors and Actuators A: Physical*, **2021**, 331, 112682	3.9	3
35	Temperature accuracy enhancement of ROTDR by weighted nuclear norm minimization algorithm. *Optical Fiber Technology*, **2021**, 67, 102688	2.4	0
34	A distributed heat pulse sensor network for thermo-hydraulic monitoring of the soil subsurface. *Quarterly Journal of Engineering Geology and Hydrogeology*, **2020**, 53, 352-365	1.4	6
33	Distributed Temperature Sensing for Oceanographic Applications. *Journal of Atmospheric and Oceanic Technology*, **2020**, 37, 1987-1997	2	2
32	Attenuation calibration method based on sensitivity correction in a Raman distributed temperature system. *Applied Optics*, **2020**, 59, 300-305	1.7	4
31	Ultrahigh temperature and strain hybrid integrated sensor system based on Raman and femtosecond FBG inscription in a multimode gold-coated fiber. *Optics Express*, **2019**, 27, 37122-37130	3.3	6
30	A Comparison of Different Methods to Estimate the Effective Spatial Resolution of FO-DTS Measurements Achieved during Sandbox Experiments. *Sensors*, **2020**, 20,	3.8	11
29	Revisiting wind speed measurements using actively heated fiber optics: a wind tunnel study. *Atmospheric Measurement Techniques*, **2020**, 13, 5423-5439	4	7
28	Limitations of fibre optic distributed temperature sensing for quantifying surface water groundwater interactions.		4
27	Distributed Temperature Sensing Based on R aman Scattering. **2022**, 625-656		

26	Autonomous distributed temperature sensing for long-term heated applications in remote areas.		
25	Novel use of the enhanced thermal response test in crystalline bedrock. *Renewable Energy*, **2022**, 182, 467-482	8.1	4
24	Distributed optical fiber temperature sensor based on self-compensation of fitting attenuation difference. *Wuli Xuebao/Acta Physica Sinica*, **2020**, 69, 030701	0.6	
23	Optical Fiber-Based Distributed Sensing Methods. *Springer Handbooks*, **2021**, 611-633	1.3	5
22	11. Transfert de chaleur dans les aquif□es et g□thermie peu profonde. **2020**, 341-364		
21	An ADTS Toolbox for automatically interpreting Active Distributed Temperature Sensing measurements.. *Ground Water*, **2022**,	2.4	4
20	The Large eddy Observatory, Voitsumra Experiment 2019 (LOVE19) with high-resolution, spatially distributed observations of air temperature, wind speed, and wind direction from fiber-optic distributed sensing, towers, and ground-based remote sensing. *Earth System Science Data*, **2022**, 14, 885-906	10.5	1
19	Recent improvement on spatial resolution enhanced distributed temperature sensors. **2022**,		
18	Combining passive and active distributed temperature sensing measurements to locate and quantify groundwater discharge variability into a headwater stream. *Hydrology and Earth System Sciences*, **2022**, 26, 1459-1479	5.5	2
17	Challenges and opportunities in distributed anti-Stokes Raman thermometry. *ISSS Journal of Micro and Smart Systems*, 1	0.9	1
16	Distinguishing Time Scales of Katabatic Flow in Complex Terrain. *Atmosphere*, **2021**, 12, 1651	2.7	1
15	Quantifying the coastal urban surface layer structure using distributed temperature sensing in Helsinki, Finland. *Atmospheric Measurement Techniques*, **2022**, 15, 2417-2432	4	
14	Extension of Duplexed Single-Ended Distributed Temperature Sensing Calibration Algorithms and Their Application in Geothermal Systems.. *Sensors*, **2022**, 22,	3.8	0
13	Physics and applications of Raman distributed optical fiber sensing.. *Light: Science and Applications*, **2022**, 11, 128	16.7	2
12	Detecting nighttime inversions in the interior of a Douglas fir canopy. *Agricultural and Forest Meteorology*, **2022**, 321, 108960	5.8	0
11	A Dynamic Calibration of Optical Fiber DTS Measurements Using PEST and Reference Thermometers. *Sensors*, **2022**, 22, 3890	3.8	1
10	Solid-Phase Reference Baths for Fiber-Optic Distributed Sensing. *Sensors*, **2022**, 22, 4244	3.8	0
9	Probing the eddy size and its effective mixing length in stably stratified roughness sublayer flows.		0

8	Raman scattering-based distributed temperature sensors: A comprehensive literature review over the past 37 years and towards new avenues. **2022**, 74, 103091	0
7	Active distributed temperature sensing to assess surface water□groundwater interaction and river loss in braided river systems. **2022**, 615, 128667	0
6	Fiber Optic Technology for Environmental Monitoring: State of the Art and Application in the Observatory of Transfers in the Vadose Zone-(O-ZNS). **2022**, 189-222	0
5	Spatial derivative-based compression approach fordistributed temperature data.	0
4	Clogging detection and productive layers identification along boreholes using Active Distributed Temperature Sensing. **2023**, 129113	0
3	Investigating river□quifer interactions using heat as a tracer in the Silala river transboundary basin.	0
2	Toward quantifying turbulent vertical airflow and sensible heat flux in tall forest canopies using fiber-optic distributed temperature sensing. **2023**, 16, 809-824	0
1	Phenophase-based comparison of field observations to satellite-based actual evaporation estimates of a natural woodland: miombo woodland, southern Africa. **2023**, 27, 1695-1722	0