

A Bibliography of Publications of Brad Bell

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Abstract

This bibliography records publications of Brad Bell.

Title word cross-reference

ℓ_1 [ABBP11].

-Laplace [ABBP11].

1 [Oce83]. 1724120 [Bel10]. 1981 [Oce81]. 1983 [Oce83].

'83 [Oce83].

acoustic [BBO81, BBM83]. age [BF13]. Algorithm [BP91]. Algorithmic [BB08]. applications [Bel10]. Approximating [Bel01]. Approximation [KNB⁺15]. arrival [BR91]. Asilomar [Che91]. August [Oce83]. Automatic [KNB⁺15].

baseline [BBO81, BHMS91]. Bayes [PB07, PB07]. Bayesian [PB05, ABBP13b, PBF13]. between [ABBP13b]. blind [PB07]. block [ABBP13a]. book [Bel10]. Boston [Oce81]. Bucy [BBP09]. Burg [BP91].

Calculating [BPW93]. California [Che91]. Carlo [PB08]. chains [PB08]. codes [BBM83, Bel83]. Computers [Che91]. Conference [Che91, Oce81, Che91]. connection [ABBP13b]. connections [ABBP13a]. constrained [BBP09]. convergence [Bel90]. correcting [Bel83]. correction [BBM83]. covariance [PB07].

data [BBM83, BBS94, BBS96]. Deconvolution [PB04, PB05, PB07]. deep [BBO81]. depth [BHMS91]. detection [BBM83]. Differentiation [KNB⁺15, BB08]. disease [BF13]. Distributed [PBF13]. dynamic [PB08].

eigenfunctions [PB07]. **empirical** [PB07]. **error** [BBM83, Bel83]. **estimate** [Bel01]. **Estimating** [BP04, BR91, BBS94, BBS96]. **estimation** [ABBP13b, Bel88, BF13]. **evaluation** [Bel88].

field [ABBP13b]. **fifth** [Che91]. **filter** [BE86, BR91, BC93]. **filtering** [BHMS91, Bel10]. **Francisco** [Oce83]. **functions** [BP04, BB08, BF13, PB05].

gamma [Bel88]. **Gauss** [BC93, Bel94]. **Gaussian** [ABBP13b]. **Generalized** [Bel88]. **Global** [Bel90, BE86]. **GPS** [BHMS91, DB94]. **Grove** [Che91].

Implementation [BBM83]. **implicit** [BB08]. **inequality** [BBP09]. **infinite** [Bel90]. **insulin** [PB04]. **interior** [BBP09]. **international** [Oce81]. **inverse** [BPW93]. **iterated** [BC93, Bel94]. **iteration** [BPW93].

Kalman [ABBP11, ABBP13a, BHMS91, BC93, Bel94, BBP09, Bel10, PBF13].

Laplace [ABBP11, KNB⁺15]. **likelihood** [Bel01, BBP09]. **linear** [PB08]. **Long** [BBO81, BHMS91]. **long-baseline** [BHMS91].

marginal [Bel01]. **Markov** [PB08]. **Massachusetts** [Oce81]. **matched** [BE86, BR91]. **maximization** [BBP09]. **MCMC** [PB05]. **measurement** [BP04]. **measurements** [BHMS91]. **Method** [DB94, Bel90, BC93, Bel94, BBS94, BBS96]. **model** [BF13, PB04]. **models** [Bel01, BP04]. **moment** [Bel88]. **Monte** [PB08]. **MR** [Bel10]. **multidimensional** [BE86]. **multipaths** [BE86]. **multiple** [BBS94, BBS96]. **multitapers** [BPW93].

network [BR91]. **networks** [PBF13]. **Newton** [BC93, Bel94]. **non** [PB04, PB08].

non-linear [PB08]. **non-stationary** [PB04]. **Nonlinear** [BHMS91, BP04, BBP09]. **Nonsmooth** [Bel84]. **November** [Che91]. **numerical** [ABBP13a].

ocean [BBO81, Oce81]. **Oceans** [Oce81, Oce83]. **one** [BP04]. **Optimal** [PB08, BB08]. **optimization** [Bel84, BE86, Bel90].

Pacific [Che91]. **parameter** [Bel88]. **parameters** [BBS94, BBS96, Bel01, BP04]. **physical** [PB04]. **point** [BBP09]. **Positioning** [DB94]. **prior** [PB07]. **Proceedings** [Oce83]. **programming** [Bel84]. **pulse** [BR91].

quadratic [Bel84].

random [ABBP13b, Bel01]. **rate** [PB04]. **rates** [BF13]. **real** [Bel10]. **real-time** [Bel10]. **record** [Che91, Oce81]. **relative** [BBS94, BBS96]. **results** [ABBP13a]. **review** [Bel10]. **RKHS** [ABBP13b, PB05]. **robust** [ABBP11].

San [Oce83]. **secretion** [PB04]. **semi** [Bel90, PB07]. **semi-blind** [PB07]. **semi-infinite** [Bel90]. **Separating** [BE86]. **September** [Oce81, Oce83]. **sets** [BBS94, BBS96]. **short** [BHMS91]. **short-baseline** [BHMS91]. **Signals** [Che91, PB04]. **smooth** [PB04]. **smoother** [ABBP11, Bel94, BBP09]. **smoothing** [ABBP13a, PB08, PBF13]. **Software** [Bel83]. **spectral** [BPW93]. **stability** [ABBP13a]. **static** [PBF13]. **stationary** [PB04]. **statistical** [BF13]. **step** [BP91]. **stochastic** [BP04]. **successive** [Bel84]. **system** [BBO81]. **Systems** [Che91, ABBP13a, PB08].

techniques [Bel83, PB05]. **telemetry** [BBO81, BBM83]. **Thomson** [BPW93].

time [Bel10, BF13]. **times** [BR91]. **TMB** [KNB⁺15]. **tracking** [BBO81]. **tridiagonal** [ABBP13a]. **Twenty** [Che91]. **Twenty-fifth** [Che91]. **two** [BP91].

update [BC93]. **using** [BP04, PB05, PB07].

values [BB08]. **variable** [BP04]. **variance** [PB04]. **variances** [BBS94, BBS96]. **via** [PB08].

weighting [BBS94, BBS96]. **workplace** [Oce81].

References

[ABBP11] Aleksandr Y. Aravkin, Bradley M. Bell, James V. Burke, and Gianluigi Pillonetto. An ℓ_1 -Laplace robust Kalman smoother. *IEEE Transactions on Automatic Control*, 56(12):2898–2911, 2011. CODEN IETAA9. ISSN 0018-9286 (print), 1558-2523 (electronic).

[ABBP13a] A. Y. Aravkin, B. B. Bell, J. V. Burke, and G. Pillonetto. Kalman smoothing and block tridiagonal systems: new connections and numerical stability results. *arXiv.org*, March 2013. URL <http://arxiv.org/abs/1303.5237>.

[ABBP13b] A. Y. Aravkin, B. M. Bell, J. V. Burke, and G. Pillonetto. The connection between Bayesian estimation of a Gaussian random field and RKHS. *arXiv.org*, Jan-

uary 2013. URL <http://arxiv.org/abs/1301.5288v3>.

Bell:2008:ADI

Bradley M. Bell and James V. Burke. Algorithmic differentiation of implicit functions and optimal values. In *Advances in automatic differentiation*, volume 64 of *Lect. Notes Comput. Sci. Eng.*, pages 67–77. Springer-Verlag, Berlin, Germany / Heidelberg, Germany / London, UK / etc., 2008.

Backes:1983:IED

J. L. Backes, B. M. Bell, and J. B. Miller. Implementation of error detection and correction codes for acoustic data telemetry. In *Oceans’83* [Oce83], pages 167–175. LCCN TC 1505 O331945 1983. Three volumes. IEEE publication number 83CH1972-9.

Backes:1981:LBD

J. L. Backes, B. M. Bell, and L. O. Olson. Long baseline deep ocean acoustic tracking and telemetry system. In *Oceans ’81* [Oce81], pages 1–8. LCCN TC1505 O33193. Two volumes. IEEE publication number 81CH1685-7.

Bell:2009:ICN

Bradley M. Bell, James V. Burke, and Gianluigi Pillonetto. An inequality constrained nonlinear Kalman–Bucy smoother by interior point likelihood maximization. *Automatica J. IFAC*, 45(1):25–33, 2009. CODEN AT-

Aravkin:2011:LRK

[BBM83]

Aravkin:2013:KSB

[BBO81]

Aravkin:2013:CBB

[BBP09]

- CAA9. ISSN 0005-1098 (print), 1873-2836 (electronic).
- [BBS94] B. M. Bell, J. V. Burke, and A. Schumitzky. A relative weighting method for estimating parameters and variances, in multiple data sets. *Computational Statistics & Data Analysis*, 1994. CODEN CSDADW. ISSN 0167-9473 (print), 1872-7352 (electronic). Submitted.
- [BBS96] Bradley M. Bell, James V. Burke, and Alan Schumitzky. A relative weighting method for estimating parameters and variances in multiple data sets. *Computational Statistics & Data Analysis*, 22(2):119–135, 1996. CODEN CSDADW. ISSN 0167-9473 (print), 1872-7352 (electronic).
- [BC93] Bradley M. Bell and Frederick W. Cathey. The iterated Kalman filter update as a Gauss–Newton method. *IEEE Transactions on Automatic Control*, 38(2):294–297, 1993. CODEN IETAA9. ISSN 0018-9286 (print), 1558-2523 (electronic).
- [BE86] B. M. Bell and T. E. Ewart. Separating multipaths by global optimization of a multidimensional matched filter. *IEEE Speech and Signal Processing*, ASSP-34(5):1029–1037, 1986.
- [Bell:1983:STE] B. M. Bell. Software techniques for error correcting codes. Technical Report APL-UW TM-4-83, University of Washington Applied Physics Laboratory, Seattle, WA, USA, 1983.
- [Bell:1984:NOS] B. M. Bell. *Nonsmooth optimization by successive quadratic programming*. PhD thesis, University of Washington, 1984.
- [Bell:1988:GGP] Bradley M. Bell. Generalized gamma parameter estimation and moment evaluation. *Communications in Statistics: Theory and Methods*, 17(2):507–517, 1988. CODEN CSTMDC. ISSN 0361-0926 (print), 1532-415X (electronic).
- [Bell:1990:GCS] Bradley M. Bell. Global convergence of a semi-infinite optimization method. *Applied Mathematics and Optimization*, 21(1):69–88, 1990. CODEN AMOMBN. ISSN 0095-4616 (print), 1432-0606 (electronic).
- [Bell:1994:IKS] Bradley M. Bell. The iterated Kalman smoother as a Gauss–Newton method. *SIAM Journal on Optimization*, 4(3):626–636, 1994. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).
- [Bel83] B. M. Bell. Software techniques for error correcting codes. Technical Report APL-UW TM-4-83, University of Washington Applied Physics Laboratory, Seattle, WA, USA, 1983.
- [Bel84] B. M. Bell. *Nonsmooth optimization by successive quadratic programming*. PhD thesis, University of Washington, 1984.
- [Bel88] Bradley M. Bell. Generalized gamma parameter estimation and moment evaluation. *Communications in Statistics: Theory and Methods*, 17(2):507–517, 1988. CODEN CSTMDC. ISSN 0361-0926 (print), 1532-415X (electronic).
- [Bel90] Bradley M. Bell. Global convergence of a semi-infinite optimization method. *Applied Mathematics and Optimization*, 21(1):69–88, 1990. CODEN AMOMBN. ISSN 0095-4616 (print), 1432-0606 (electronic).
- [Bel94] Bradley M. Bell. The iterated Kalman smoother as a Gauss–Newton method. *SIAM Journal on Optimization*, 4(3):626–636, 1994. CODEN SJOPE8. ISSN 1052-6234 (print), 1095-7189 (electronic).

- [Bel01] Bradley M. Bell. Approximating the marginal likelihood estimate for models with random parameters. *Applied Mathematics and Computation*, 119(1):57–75, 2001. CODEN AMHCBQ. ISSN 0096-3003 (print), 1873-5649 (electronic).
- [BP91] B. M. Bell and D. B. Percival. A two step Burg Algorithm. *IEEE Transactions on Signal Processing*, 39(1), 1991.
- [Bel10] Bradley M. Bell. Kalman filtering with real-time applications [book review of MR 1724120]. *SIAM Review*, 52(2):390–392, 2010. CODEN SIREAD. ISSN 0036-1445 (print), 1095-7200 (electronic).
- [BF13] Bradley M. Bell and Abraham D. Flaxman. A statistical model and estimation of disease rates as functions of age and time. *SIAM Journal on Scientific Computing*, 35(2):B511–B528, 2013. CODEN SJOCE3. ISSN 1064-8275 (print), 1095-7197 (electronic).
- [BHMS91] B. M. Bell, B. M. Howe, J. A. Mercer, and R. C. Spindel. Nonlinear Kalman filtering of long-baseline, short-baseline, GPS, and depth measurements. In Chen [Che91], pages 131–136. ISBN 0-8186-2470-1 (paperback), 0-8186-2471-X (microfiche), 0-8186-2472-8 (hardback). LCCN TK 5102.5 A78 1991. IEEE catalog number 91CH31120.
- [BPW93] B. M. Bell, D. B. Percival, and A. T. Walden. Calculating Thomson’s spectral multitapers by inverse iteration. *Journal of Computational and Graphical Statistics*, 2(1):119–130, 1993. ISSN 1061-8600 (print), 1537-2715 (electronic).
- [BR91] B. M. Bell and S. A. Reynolds. A matched filter network for estimating pulse arrival times. *IEEE Transactions on Signal Processing*, 39(2), 1991.
- [Che91] Ray R. Chen, editor. *Conference record of the Twenty-fifth Asilomar Conference on Signals, Systems and Computers: November 4–6, 1991, Pacific Grove, California*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD

Bell:2001:AML**Bell:1991:TSB****Bell:2010:KFR****Bell:2004:EPS****Bell:2013:SME****Bell:1993:CTS****Bell:1991:NKF****Bell:1991:MFN****Chen:1991:CRT**

- 20910, USA, 1991. ISBN 0-8186-2470-1 (paperback), 0-8186-2471-X (microfiche), 0-8186-2472-8 (hardback). LCCN TK 5102.5 A78 1991. IEEE catalog number 91CH31120.
- [DB94] D. J. Dailey and B. M. Bell. A method for GPS positioning. *IEEE Transactions on Aerospace and Electronics*, 1994. Submitted.
- [KNB⁺15] K. Kristensen, A. Nielsen, C. W. Berg, H. Skaug, and B. Bell. TMB: Automatic differentiation and Laplace approximation. *arXiv.org*, September 2015. URL <http://arxiv.org/abs/1509.00660v1>.
- [Oce81] *Oceans 81: The ocean ... an international workplace conference record, Boston, Massachusetts, September 16-18, 1981*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 1981. LCCN TC1505 .O33193. Two volumes. IEEE publication number 81CH1685-7.
- [Oce83] *Proceedings, Oceans '83: San Francisco, August 29-September 1, 1983*. IEEE Computer Society Press, 1109 Spring Street, Suite 300, Silver Spring, MD 20910, USA, 1983. LCCN TC 1505 O331945 1983. Three volumes. IEEE publication number 83CH1972-9.
- [PB04] **Pillonetto:2004:DNS**
Gianluigi Pillonetto and Bradley M. Bell. Deconvolution of non-stationary physical signals: a smooth variance model for insulin secretion rate. *Inverse Problems*, 20(2):367–383, 2004. CODEN INPEEY. ISSN 0266-5611 (print), 1361-6420 (electronic).
- [PB05] **Pillonetto:2005:BDF**
Gianluigi Pillonetto and Bradley M. Bell. Bayesian deconvolution of functions in RKHS using MCMC techniques. In *System modeling and optimization*, volume 166 of *IFIP Int. Fed. Inf. Process.*, pages 257–268. Kluwer Acad. Publ., Boston, MA, 2005.
- [PB07] **IEEE:1981:OOI**
Gianluigi Pillonetto and Bradley M. Bell. Bayes and empirical Bayes semi-blind deconvolution using eigenfunctions of a prior covariance. *Automatica J. IFAC*, 43(10):1698–1712, 2007. CODEN ATCAA9. ISSN 0005-1098 (print), 1873-2836 (electronic).
- [PB08] **Pillonetto:2008:OSN**
Gianluigi Pillonetto and Bradley M. Bell. Optimal smoothing of nonlinear dynamic systems via Monte Carlo Markov chains. *Automatica J. IFAC*, 44(7):1676–1685, 2008. CODEN ATCAA9. ISSN 0005-1098 (print), 1873-2836 (electronic).
- [PBF13] **Pillonetto:2013:DKS**
Gianluigi Pillonetto, Bradley M. Bell, and Simone Del Favero. Dis-

tributed Kalman smoothing in static Bayesian networks. *Automatica J. IFAC*, 49(4):1001–1011, 2013. CODEN ATCAA9. ISSN 0005-1098 (print), 1873-2836 (electronic).