

## Publications, Patents, and Theses of James C. Spall

### Books

- Spall, J. C. (2003), *Introduction to Stochastic Search and Optimization: Estimation, Simulation, and Control*, Wiley, Hoboken, NJ (618 pages). [www.jhuapl.edu/ISSO](http://www.jhuapl.edu/ISSO)
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### Journal Articles and Refereed Book Chapters

- Spall, J. C. (2010), “Factorial Design for Choosing Input Values in Experimentation: Generating Informative Data for System Identification,” *IEEE Control Systems Magazine*, vol. 30(5), pp. 38–53. [dx.doi.org/10.1109/MCS.2010.937677](https://doi.org/10.1109/MCS.2010.937677)
- Cao, X. and Spall, J. C. (2010), “Comparison of Expected and Observed Fisher Information in Variance Calculations for Parameter Estimates,” *Johns Hopkins APL Technical Digest*, vol. 28(3), pp. 294–295.
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- Spall, J. C. (2005), “Monte Carlo Computation of the Fisher Information Matrix in Nonstandard Settings,” *Journal of Computational and Graphical Statistics* (American Statistical Assoc.), vol. 14(4), pp. 889–909.
- Spall, J. C. (2005), “The Applied and Computational Mathematics Program at the Johns Hopkins University,” *Johns Hopkins APL Technical Digest*, vol. 26, pp. 219–223.
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### Articles Submitted and/or Accepted

- Spall, J. C. (2012), “Identification for Systems with Binary Subsystems,” submitted.
- Cao, X. and Spall, J. C. (2012), “Relative Performance of Expected and Observed Fisher Information in Covariance Estimation for Maximum Likelihood Estimates,” *Proceedings of the American Control Conference*, 27–29 June 2012, Montréal, Canada, to appear (paper WeC09.1).

- Spall, J. C. (2012), “Asymptotic Normality and Uncertainty Bounds for Reliability Estimates from Subsystem and Full System Tests,” *Proceedings of the American Control Conference*, 27–29 June 2012, Montréal, Canada, to appear (paper WeA02.3).
- Hutchison, D. W. and Spall, J. C. (2012), “Stopping Stochastic Approximation in Finite Samples,” *Automatica*, provisionally accepted.
- Spall, J. C. (2012), “Cyclic Seesaw Process for Optimization and Identification,” *Journal of Optimization Theory and Applications*, scheduled for publication July 2012, vol. 154(1). [dx.doi.org/10.1007/s10957-012-0001-1](http://dx.doi.org/10.1007/s10957-012-0001-1)
- Hill, S. D., Spall, J. C., and Maranzano, C. J. (2011), “Inequality-Based Reliability Estimates for Complex Systems,” *Naval Research Logistics*, submitted.
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#### **Partial List of Conference Articles Appearing in Proceedings Volumes (Most are Refereed)**

- Spall, J. C. (2011), “Cyclic Seesaw Optimization and Identification,” *Proceedings of the Joint IEEE Conference on Decision and Control and European Control Conference*, 12–15 December 2011, Orlando, FL, pp. 4442–4447 (paper WeA04.2).
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[www.jhuapl.edu/SPSA](http://www.jhuapl.edu/SPSA): Supporting site for simultaneous perturbation stochastic approximation (SPSA) algorithm. Contains general information, links to over 200 references, MATLAB code, and online video. Online beginning March 2001; most recent significant update April 2012.

### **U. S. Patents**

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