Publication List

Brian MacKie-Mason

October 8, 2018

Publications

1. **B. MacKie-Mason**, H-W. Gao, and Z. Peng, "Rapid Antenna Prototyping on Large Platforms via Data-Sparse Schur Complement," (working).

2. **B. MacKie-Mason**, Y. Shao, A. Greenwood, and Z. Peng, "Supercomputing-Enabled First-Principles Analysis of Radio Wave Propagation in Urban Environments," *IEEE Transactions on Antennas and Propagation,* , pp. X–Y (2018).

3. **B. MacKie-Mason** and Z. Peng, "Towards Real-time In-Situ Antenna Analysis and Design on Platforms of 1000 Wavelengths", *Antennas and Propagation & USNC/URSI National Radio Science Meeting, 2017 IEEE International Symposium on,* San Diego, CA, July 2017.

4. Z. Peng and **B. MacKie-Mason**, "High-Performance Surface Integral Equation Solvers Towards Extreme-Scale Electromagnetic Modeling and Simulation," *Applied Computational Electromagnetics (ACES), 2015 32nd International Review of Progress in,* Honolulu, HI, March 2016.

5. Z. Peng, R. Hiptmair, Y. Shao, **B. MacKie-Mason**, "Domain Decomposition Preconditioning for Surface Integral Equations in Solving Challenging Electromagnetic Scattering Problems," *IEEE Transactions on Antennas and Propagation,* **64**, pp. 210–223 (2016).

6. **B. MacKie-Mason**, A. Greenwood, and Z. Peng, "Adaptive and Parallel Surface Integral Equation Solvers for Very Large-Scale Electromagnetic Modeling and Simulation (invited paper)," *Progress in Electromagnetics Research,* **154**, pp. 143–162 (2015).

7. **B. MacKie-Mason**, Z. Peng, "Adaptive, Scalable Domain Decomposition Methods for Surface Integral Equations," *Antennas and Propagation & USNC/URSI National Radio Science Meeting, 2015 IEEE International Symposium on,* Vancouver, B.C., July 2015.

8. Z. Peng, **B. MacKie-Mason**, "Integral equation discontinuous Galerkin methods for time harmonic electromagnetic wave problems," *Applied Computational Electromagnetics (ACES), 2015 31st International Review of Progress in,* Williamsburg, VA, March 2015.

Talks/Presentations

1. **B. MacKie-Mason**, P. Velesko, R. Hager, C-S. Chang, and T.J. Williams, "Application Study of Gyrokinetic PIC codes on Intel KNL architecture", *Bulletinn of the American Physical Society,* Nov. 5-9, 2018.

2. **B. MacKie-Mason**, P. Velesko, R. Hager, C-S. Chang, and T.J. Williams, "Application Study of Gyrokinetic PIC codes on Intel KNL architecture", *IXPUG Annual Fall Conference,* Hillsboro, OR, U.S.A. September 25-28, 2018.

3. **B. MacKie-Mason**, "What do I do?", *Argonne Computing Coffee & Code,* Argonne, IL, U.S.A., September 12, 2018.

4. **B. MacKie-Mason** and Zhen Peng, "Towards a Real-Time Solution of Extreme-Scale Electromagnetic Problems", *Radio Science Conference (NRSC), 2017 34th National,* Boulder, CO, U.S.A., January 2017.

5. **B. MacKie-Mason**, Z. Peng, and C. Kung, "Extreme Fidelity Computational Electromagnetic Analysis in the Supercomputer Era", *The International Conference for High Performance Computing, Networking, Storage and Analysis,* Salt Lake City, Utah, U.S.A., November 2016.

6. **B. MacKie-Mason** and Z. Peng, "High-fidelity, High-performance Integral Equation Solver for Time-Harmonic Maxwell's Equations", *Antennas and Propagation & USNC/URSI National Radio Science Meeting, 2016 IEEE International Symposium on,* Fajardo, Puerto Rico, U.S.A., June 2016.

7. **B. MacKie-Mason** and Z. Peng, "Adaptive and parallel surface integral equation solvers for very large-scale electromagnetic modeling and simulation," *Electrical and Computer Engineering Student Paper Competition,* Albuquerque, NM, April 2016.