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**George Fann\*** ([fanngi@ornl.gov](mailto:fanngi@ornl.gov)), Oak Ridge National Laboratory, 1 Bethel Valley Road, Oak Ridge, FL 37831-6367. *Computational Harmonic Analysis and Cauchy Problems*. Preliminary report.

We describe the constructive approximations of time-dependent Green's functions and its applications for solving Cauchy problems in high dimensions using massively parallel computers, with examples from computational physics. (Received October 01, 2012)