Parallelization of the Diffusion Equation Method for Global Optimization

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We use a discrete version of the Diffusion Equation Method (DEM) for global optimization to solve a problem from magnetotelluric geoprospecting. The main computational effort for this application is in repeatedly evaluating the objective function, which fortunately can be done in a highly parallel manner. We discuss our multilayer parallel implementation of the objective function and discrete DEM, and analyze the performance and scalability of our approach.

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