Log-Gaussian Cox Example

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This Matlab code demonstrates the Log-Gaussian Cox model introduced in Section 9 of our paper "Riemann Manifold Langevin and Hamiltonian Monte Carlo". There are three folders, one for each of the methods we have implemented. For sampling with MALA, "LGC_MALA_Transient.m" draws samples with the algorithm optimised for the transient phase of sampling, and "LGC_MALA_Stationary.m" draws samples with the algorithm optimised for sampling from the stationary distribution once the Markov chain has converged. In each of the "RMHMC" and "mMALA" folders, there are two Matlab scripts; one for sampling just the latent variables and another for sampling both the latent variables and the hyperparameters. The samples are saved in the "Results" folder, and the average sampling efficiency is calculated by running "'CalculateStatistics.m'. (Note that 8GB of memory is recommended for running this high dimensional example, and that Tom Minka's Lightspeed toolbox for Matlab must be installed.)