walkr

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Abstract The `walkr` package samples points using random walks from the intersection of the N simplex with M hyperplanes. Mathematically, the sampling space is all vectors x that satisfy $Ax = b$, $\sum x = 1$, and $x_i \geq 0$. The sampling algorithms implemented are hit-and-run and Dikin walk, both of which are MCMC (Monte-Carlo Markov Chain) random walks. `walkr` also provide tools to examine and visualize the convergence properties of the random walks.

Introduction

Sampling space: simple 3D case

Random Walks

Starting Points

Hit-and-run

Dikin Walk

Using `walkr`

Examining/Visualizing Results

Conclusion

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