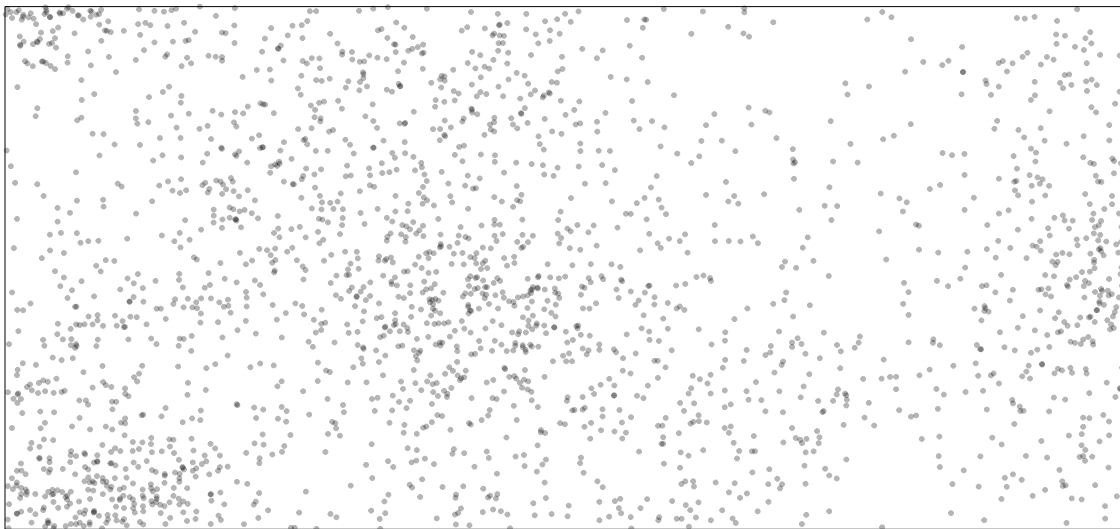# Example Spatial Sampling Paths

Kenny Flagg

May 1, 2020

## Full Dataset

Full Data

The dataset in a 1500×700 rectangular region. It will be surveyed such that only events within 2 units of a path are observed.
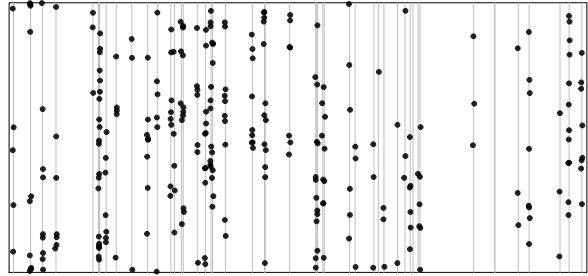
- Parallel transect designs

  - Simple random sample
  - Systematic sample, evenly spaced, with random starting point
  - Inhibitory plus close pairs

- Hilbert curve, a deterministic space-filling curve, with random starting point

- Shortest path (traveliing salesperson) through a Latin hypercube sampling design

- Random particle movement
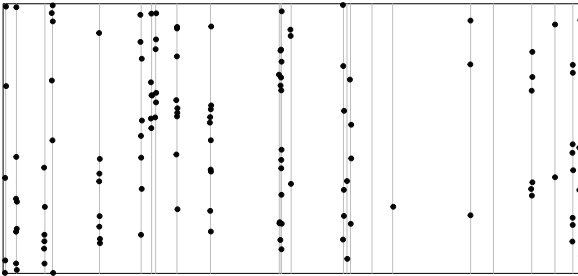
Simple Random Sample of Parallel Transects
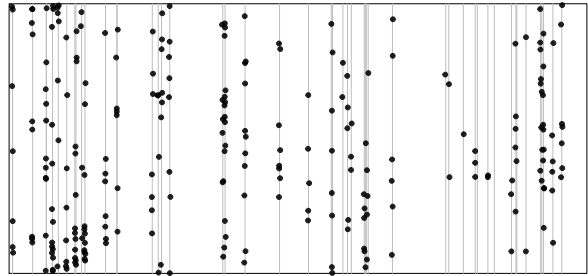
SRS, length = 17500
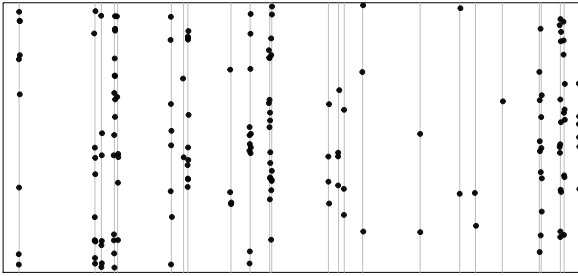
SRS, length = 35000
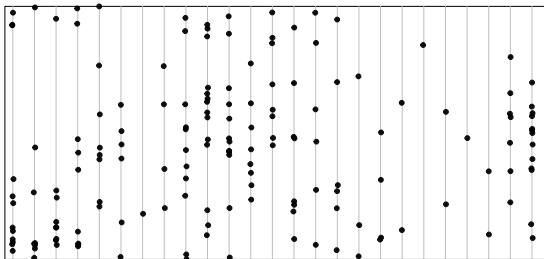
SRS, length = 17500
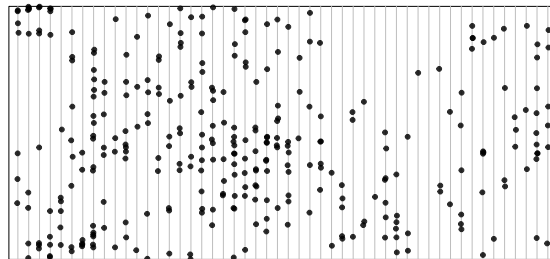
SRS, length = 35000
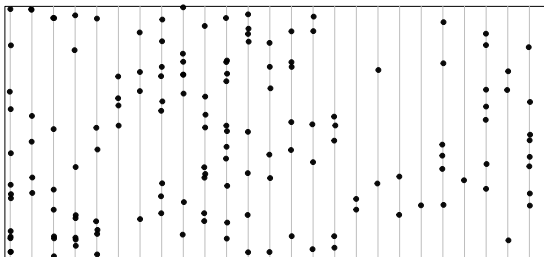
Systematic Sample of Parallel Transects

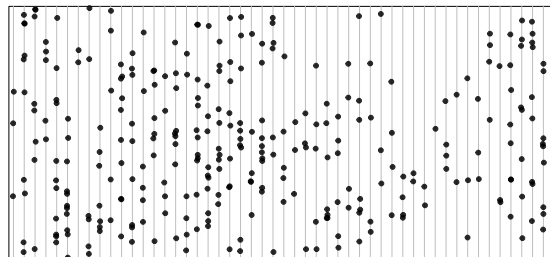**Systematic Sample, length = 17500**

Systematic Sample, length = 35000
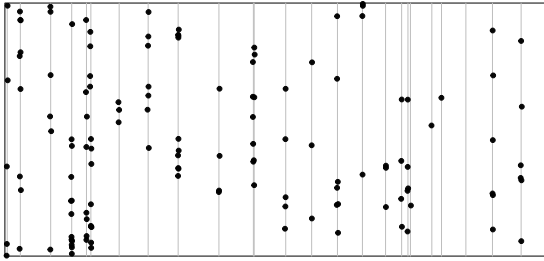
Systematic Sample, length = 17500
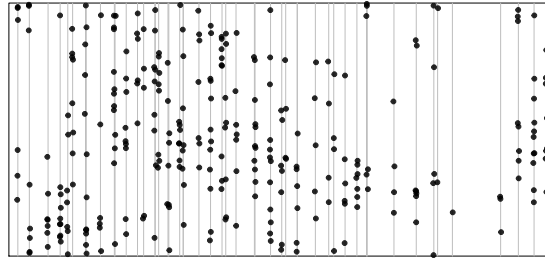
Systematic Sample, length = 35000

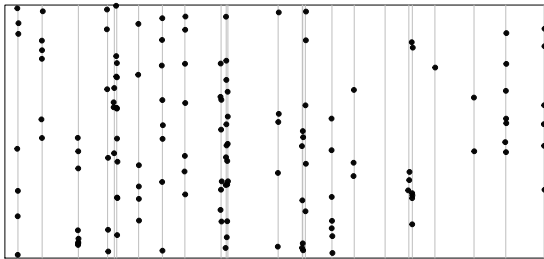# Inhibitory Plus Close Pairs of Parallel Transects

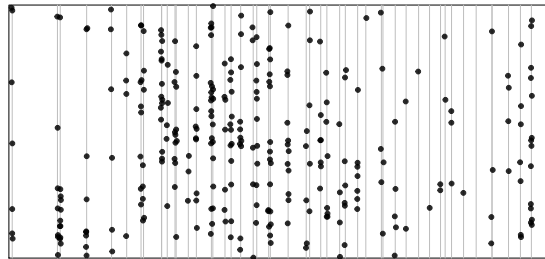**Inhibitory Plus Pairs, length = 17500**

Inhibitory Plus Pairs, length = 35000

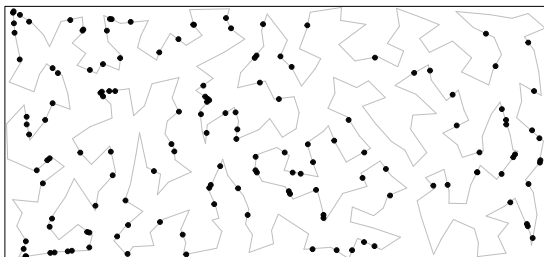**Inhibitory Plus Pairs, length = 17500**
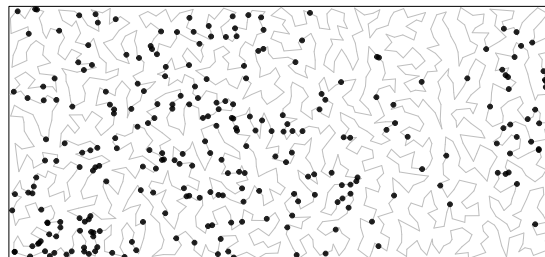
Inhibitory Plus Pairs, length = 35000

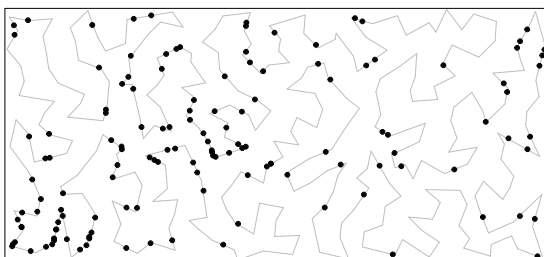# Latin Hypercube Sampling-Traveling Salesperson
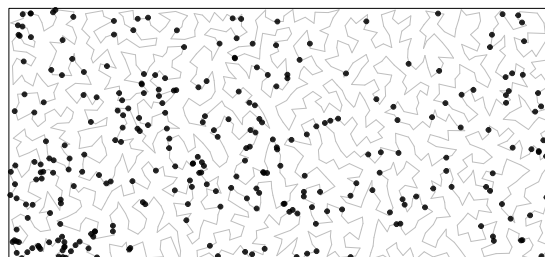
LHS−TSP, length = 16927

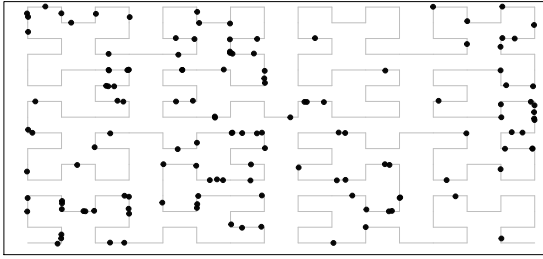**LHS−TSP, length = 34236**

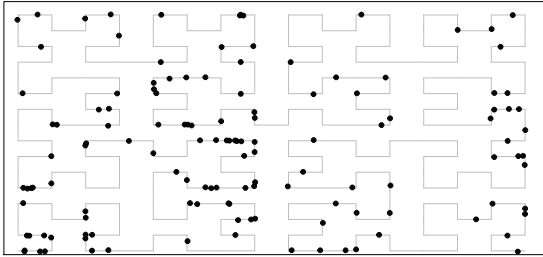**LHS−TSP, length = 17095**

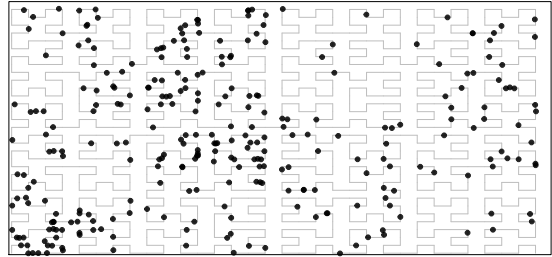**LHS−TSP, length = 34350**

Hilbert Curve

Hilbert Curve, length = 17442

Hilbert Curve, length = 35025

Particle Movement