

Sex, Death, and Scale-Free Graphs

Modeling the spread of HIV

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Scientific Computing

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Scale-Free Models

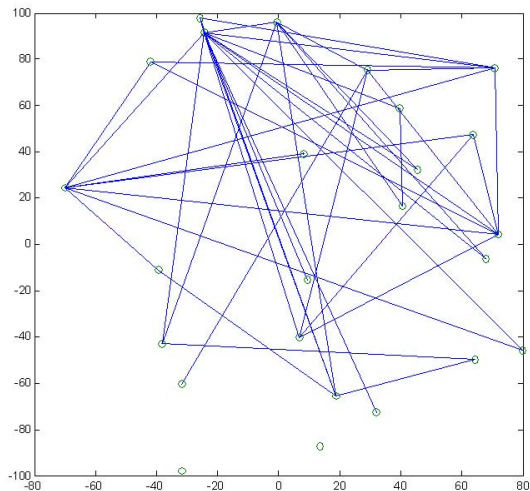
Thesis

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Background

HMC

Africa



Test #1: Harvey Mudd College

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Parameter Values

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Annual Turnaround = 25%

Transmission Rate = 15%/person/year

	0 <i>partners</i>	48%
	1	35%
Social Structure (NCHA)=	2	11%
	3	2.6%
	4+	3.5%

Number of Known HIV+ Cases (NCHA) = 1

Incubation Time > Time at Mudd

Results

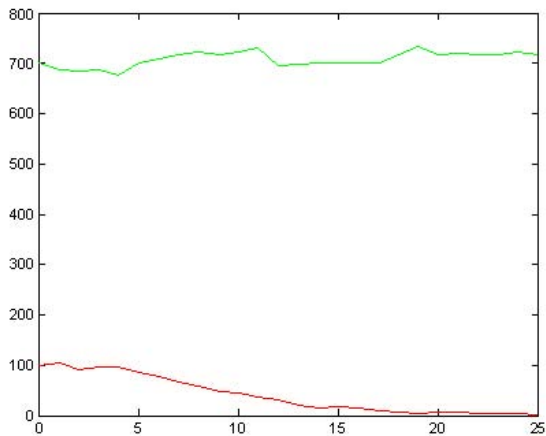
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Test #2: Zimbabwe

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http://www.mongabay.com/images/external/africa-satellite_unmarked.gif

Results

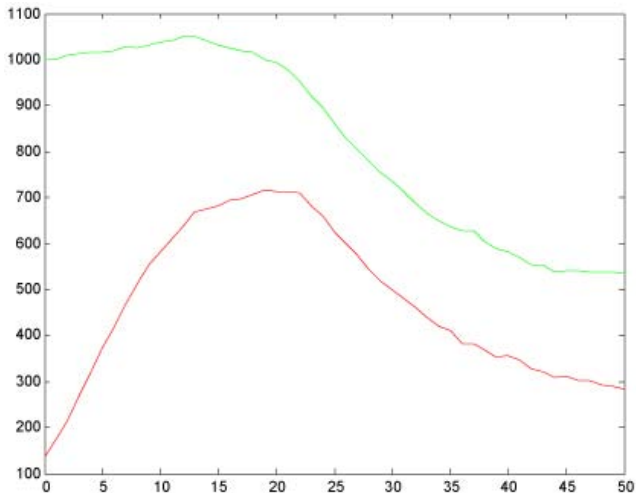
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Results

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Parameter	End Pop.	Health
Time to Progression		
Trans. in High Risk		
Connectivity Level		
Transmission Rate		

Results

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Parameter	End Pop.	Health
Time to Progression	0.3147	-0.0118
Trans. in High Risk	-0.302	-.7223
Connectivity Level	0.7250	0.3471
Transmission Rate	-0.3843	0.1122

Acknowledgments

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- ▶ Benj & Margaurite
- ▶ Professor DePillis
- ▶ Dean Guy