A numerical study of fixation probabilities for strategies in the Iterated Prisoner's Dilemma

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Abstract

TBD

1 Introduction

Main questions are:

1. What strategies are good invaders?
2. What strategies are good at resisting invasion?
3. How do 1 and 2 change as a function of population size?

Structure:

- Overview of Moran processes;
- Review of the literature ([1, 2]);
- Short discussion about the Axelrod library.

2 Validation

Structure:

- Compute fitness landscape for some strategy pairs;
- Verify against the data;

3 Numerical results

Structure:

- General overview of the data obtained;
- Inclusion of most of the work in `Moran.ipynb`.

4 Conclusion

References

[1] Christopher Lee, Marc Harper, and Dashiell Fryer. The Art of War: Beyond Memory-one Strategies in Population Games. *Plos One*, 10(3):e0120625, 2015.

[2] Martin A Nowak. *Evolutionary Dynamics: Exploring the Equations of Life.* Cambridge: Harvard University Press.