Lab Notebook

Kozai migration paper outline

- **Intro**
    - Motivation: Why this is an interesting and important problem
        - Tidal inflation of jupiter-like planets
            - The timescale(s) for inflation, according to what other people have done.
                - Cite the Gu and Miller papers here.
            - Mention systems where tidal inflation of hot Jupiters has been observed.
        - Kozai cycles
            - Cite the papers that explain the theory behind it
            - List observed systems where this is in play
        - Kozai migration
            - Cite the papers that explain the theory behind it
            - List actual systems where this may be happening
        - Observability
            - I have no clue how feasible observations of any type would be! Come back, fill in later.
    - Background: Who's done what so far
        - Come back, fill this in later
    - Summary of our unique contributions
        - Time-periodic gaussian (realistic) tidal energy inputs into an interior structure model
    - Brief outline/table of contents/guide for the rest of the paper
- **Methods**
    - The eqns of "stellar" structure we're using/Lagrangian code
    - Description of the Bodenheimer Henyey code used for the simulations
    - Discuss how I obtained the Jupiter-mass-ish starting models used in these simulations
        - Maybe provide links to the input models and parameters used?
    - Description of the input parameters to that code (tKozai, efac, etc)
        - Math description of the energy input form(s)
        - Eqns and physics behind determining what range of efac values to use
        - This section should probably involve a summary table or something!
        - Explain which tKozai values/ranges I used, and why (based on the math/theory of other peoples' papers)
            - Again, maybe provide links to the input models and parameters used for these runs?
- **Results**
    - Plots.
        - Seriously. All of them.

        - Possibly also a link to that internet lookup widget thing I'm going to make.
- **Discussion/Conclusion**
    - Fill this in later, when I have a single intelligent or insightful thing to say about any of this