**The structure of neutron stars**

**Intro**

Talk about neutron stars and what we know about them. Why we cannot look at the structure. And so it is best to simulate them.

**The Theoretical structure**

This will be used so the eos section can refer to assumptions.

**The Idea of building a star (dm/dr) (dp/dr)**

Newtonian Vs GR

**The equation of state**

BJ Vs Fermi

**Computational method**

Based on the rk4, with comparison to rk5 and Euler.

**Results and Estimated Error**

Rk5, Euler, Double Step and Interpolation.

Why do certain patterns on the graph exist.

**Summary**

How does the result fit observation? What is the closet result and why?