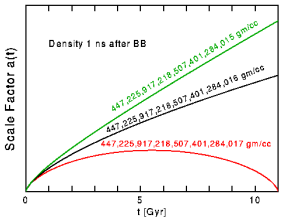
Old Gravity

The start of the Universe is not stable, it should ball up.
There is no reason matter should move at the same speed.

Flatness problem:
initial conditions
are unstable

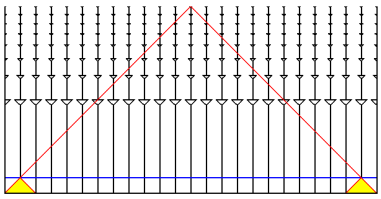


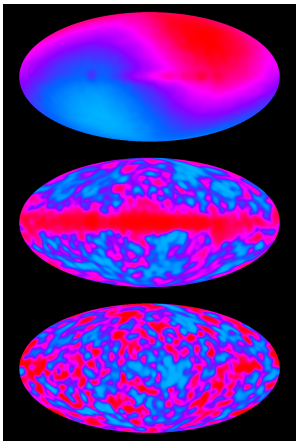
$$\left(\frac{\rho_c}{\rho} - 1\right)\rho a^2 = -\frac{3}{8\pi G}kc^2$$

$$\frac{\rho}{\rho_{c\,\text{now}}} \approx 1.01$$

$$\frac{\rho}{\rho_{c\,\text{Big Bang}}} \approx 1.00..(\text{lots of } 0'\text{s})..001$$

Horizon problem:
velocities have no
way to agree to
1 part in 100,000





History

1969 Dicke, the Universe is flat now, but had to be far more flat at the start

Current Efforts

Inflation - magic to make Universe briefly grow like crazy

My Effort

Don't use Newton out-of-the-box, things are moving
Need a stable, constant velocity solution for gravity.