

Small Gravity

Get gravity to work nicely with quantum mechanics.

$$\left(\frac{d^2}{dt^2} - c^2 \nabla^2 \right) A^\mu = J^\mu \quad \xrightarrow{\text{invert by picking a gauge}} \quad A^\mu = e^{ikx} \dots$$

Field eqs propagator

gauge dep. stuff

\mathcal{L} = simple

+ A^μ ...perturbation

The issue: does the perturbation converge in a scattering calculation?
"Yes" for 4 linear EM eqs,
"no" for 10 nonlinear GR eqs.

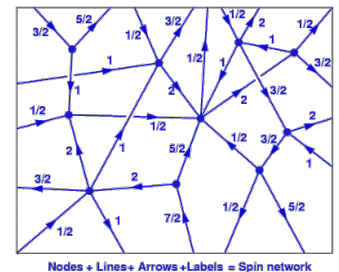
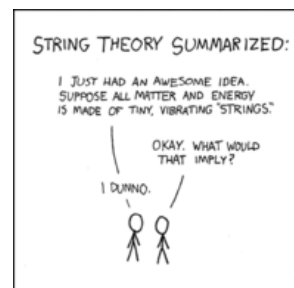
History

1916+ Force laws the same, so quantization the same, no?

Current Efforts

Work with strings

Loop quantum gravity



My Effort

Make a 1 nonlinear gravity field theory.

It changes measurements of all quanta.