Figure Captions

1. Method of “evaluating” a simplicial spacetime on a continuum spacetime.

2. Approximating a continuous curve with line segments. The approximation is better if one looks at many line segments, rather than focusing in on any one particular segment.

3. A plot of $\ln(R_{abs})$ vs. $\ln(1/\delta)$ for the Schwarzschild metric.

4. A plot of $\ln(R_{avg})$ vs. $\ln(1/\delta)$ for the Schwarzschild metric. The particular weighting in $R_{avg}$ (eq. 18) is the time-time variation of the metric. The graphs for the other 9 independent weightings are identical.

5. A plot of $\ln(R_{abs})$ vs. $\ln(1/\delta)$ for the Kerr metric.

6. A plot of $\ln(R_{avg})$ vs. $\ln(1/\delta)$ for the Kerr metric. The particular weighting in $R_{avg}$ (eq. 18) is the time-time variation of the metric. The graphs for the other 9 independent weightings are identical.

7. A plot of $\ln(R_{abs})$ vs. $\ln(1/\delta)$ for the Kasner metric.

8. A plot of $\ln(R_{avg})$ vs. $\ln(1/\delta)$ for the Kasner metric. The particular weighting in $R_{avg}$ (eq. 18) is the time-time variation of the metric. The graphs for the other 9 independent weightings have the same convergence rates.
assign the squared geodesic distances of $M$ to the squared lengths of the links in the simplicial manifold
Figure 2

- line segment
- curve
slope of fit: $-4$
slope of fit: $-4$
slope of fit: $-4$
slopes of fit: $-2$
slope of fit: $-4$