2.4 Example: Curved Metric

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1 Example: Curved Metric

This example demonstrates a curved metric within a $2D$ configuration space. The metric tensor g_{ij} encodes curvature and morphing potential through its dependence on phase angle θ and morphing coefficient κ:

$$g_{ij} = (\,1\,)\sin(\theta)\sin(\theta)1 + \kappa^2.$$

Here, the metric's components depend on θ, the phase angle, and κ, a morphing coefficient. This structure introduces curvature gradients that influence configuration transitions, collapse behavior, and phase fixation.

Such a metric allows Unified Configuration Theory to represent quantum systems as embedded within a morphable, curved geometric substrate. It supports both analytical modeling and visual interpretation of configuration dynamics.

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Figure 1: Curved metric structure in configuration space, showing curvature gradients and morphing flow lines.