The Hyperbolic Plane

unit disk
\( \{ z \in \mathbb{C} : |z| < 1 \} \)
+ metric

"The TWA Space"

"The sphere of radius \( \sqrt{-1} \)"

Transport metric on sphere of radius \( R \) onto the plane by Stereographic proj.

\[ ds = \text{distance on sphere between } p(x) \text{ and } p(x) \]
\[ = dx \sqrt{1 + \lambda \|x\|^2} \]
Gaussian curvature \( \lambda = \frac{1}{R^2} \)

\( \lambda = -1 \) gives hyperbolic plane