A diffeomorphism-invariant generalised measure is constructed on the space of metrics of a smooth compact 2-manifold. This measure has the property that for any countable set of curves the total geodesic curvature is almost always zero. It is shown that any topological quantum field theory coming from the Euler number of the manifold can be made into a path integral against this measure.

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MSC:

58C35 Integration on manifolds; measures on manifolds
81T40 Two-dimensional field theories, conformal field theories, etc. in quantum mechanics
57M99 General low-dimensional topology
58D17 Manifolds of metrics (especially Riemannian)
58D30 Applications of manifolds of mappings to the sciences

Keywords:
measure; space of metrics; compact 2-manifold; topological quantum field theory; Euler number; path integral

Full Text: DOI arXiv

References:

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