

**Differential Geometry in Statistical Inference**

by S.-I. Amari, O. E. Barndorff-Nielsen, R. E. Kass, S. L. Lauritzen,  
and C. R. Rao

The papers collected here present, in a concise yet comprehensive form, several major developments of recent research on differential geometry in statistics.

**Contents**

*Introduction* by R. E. Kass

*Differential Geometrical Theory of Statistics–Towards New Developments*

by S.-I. Amari

Introduction; Geometrical Structure of Statistical Models; Higher-Order Asymptotic Theory of Statistical Inference in Curved Exponential Family; Information, Sufficiency and Ancillarity Higher Order Theory; Fibre-Bundle Theory of Statistical Models; Estimation of Structural Parameter in the Presence of Infinitely Many Nuisance Parameters; Parametric Models of Stationary Gaussian Time Series; References

*Differential and Integral Geometry in Statistical Inference* by O. E. Barndorff-Nielsen

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*Statistical Manifolds* by S. L. Lauritzen

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*Differential Metrics in Probability Spaces* by C. R. Rao

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