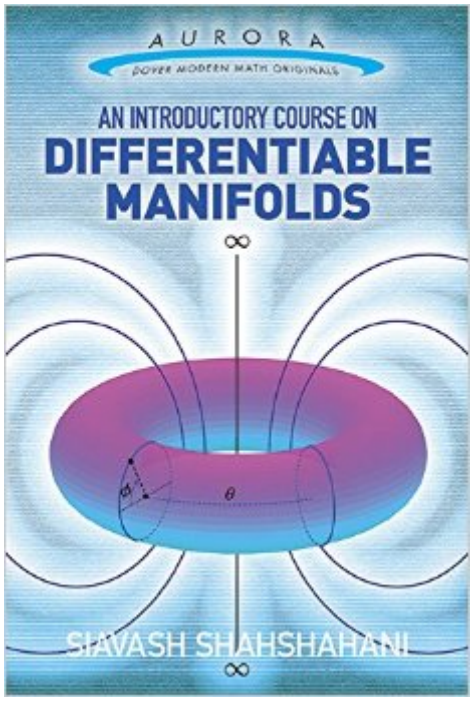
An Introductory Course On Differentiable Manifolds (Aurora: Dover Modern Math Originals)



Synopsis

Based on author Siavash Shahshahani's extensive teaching experience, this volume presents a thorough, rigorous course on the theory of differentiable manifolds. Geared toward advanced undergraduates and graduate students in mathematics, the treatment's prerequisites include a strong background in undergraduate mathematics, including multivariable calculus, linear algebra, elementary abstract algebra, and point set topology. More than 200 exercises offer students ample opportunity to gauge their skills and gain additional insights.The four-part treatment begins with a single chapter devoted to the tensor algebra of linear spaces and their mappings. Part II brings in neighboring points to explore integrating vector fields, Lie bracket, exterior derivative, and Lie derivative. Part III, involving manifolds and vector bundles, develops the main body of the course. The final chapter provides a glimpse into geometric structures by introducingÂ connectionsÂ on the tangent bundle as a tool to implant the second derivative and the derivative of vector fields on the base manifold. Relevant historical and philosophical asides enhance the mathematical text, and helpful Appendixes offer supplementary material.

Book Information

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