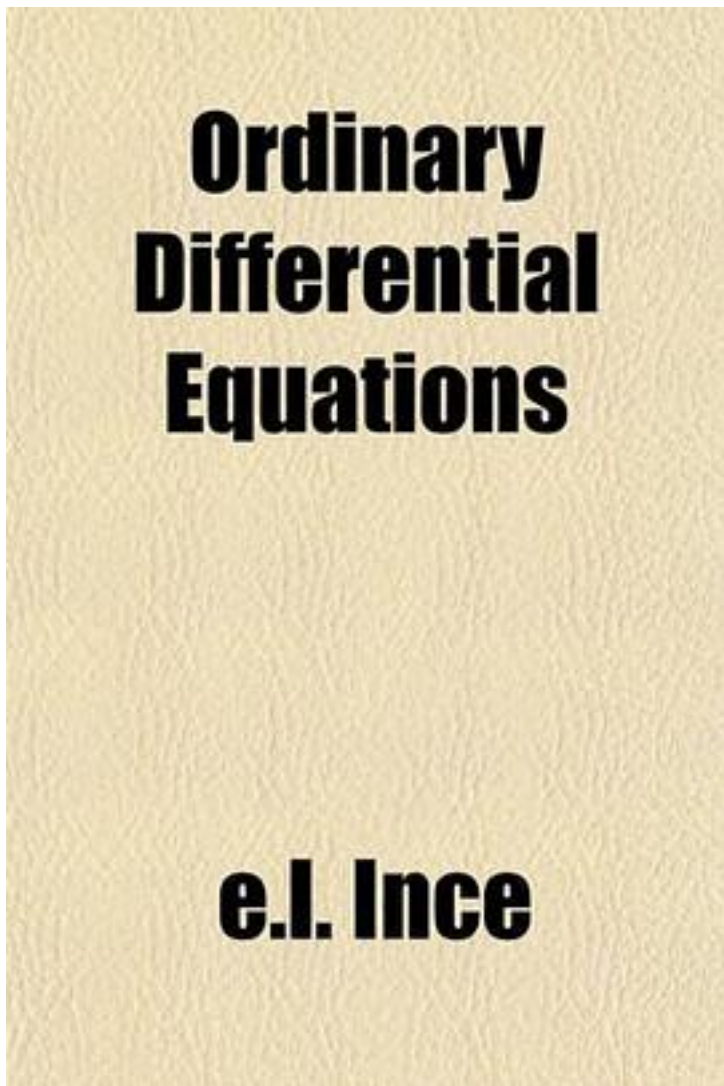


Ordinary Differential Equations



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著者:V.I. Arnold

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There are dozens of books on ODEs, but none with the elegant geometric insight of Arnol'd's book. Arnol'd puts a clear emphasis on the qualitative and geometric properties of ODEs and their solutions, rather than on the routine presentation of algorithms for solving special classes of equations. Of course, the reader learns how to solve equations, but with much more understanding of the systems, the solutions and the techniques. Vector fields and one-parameter groups of transformations come right from the start and Arnol'd uses this "language" throughout the book. This fundamental difference from the standard presentation allows him to explain some of the real mathematics of ODEs in a very understandable way and without hiding the substance. The text is also rich with examples and connections with mechanics. Where possible, Arnol'd proceeds by physical reasoning, using it as a convenient shorthand for much longer formal mathematical reasoning. This technique helps the student get a feel for the subject. Following Arnol'd's guiding geometric and qualitative principles, there are 272 figures in the book, but not a single complicated formula. Also, the text is peppered with historical remarks, which put the material in context, showing how the ideas have developed since Newton and Leibniz. This book is an excellent text for a course whose goal is a mathematical treatment of differential equations and the related physical systems.

作者介绍:

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标签

数学

數學

几何

ODE

评论

书评

2014年说明：

此文写于很多年前，当时我性格不好，语言不够平和。承蒙各位网友不嫌弃，点了不少所谓的“有用”。今天的我更希望能用友善委婉的语气表达同样的意思，但也无心去修改原文了。希望今后各位读者不要受到误导。-----...

第一页就莫名其妙地说热传导是半确定过程，因为未来是由现在决定的，而不是由过去决定的。结果翻了下英译，人家说的是未来是由现在确定，但过去不是由现在确定。（the future is determined by the present but the past is not.）
待更（如果还读汉译的话。。。)

以下是一些作为学渣的体会，对于大神来说完全不适用： 1.
首先吐槽一下语言：感觉这本书的英文翻译不是很好懂==像Rudin, Stein等人的书，看着还比较痛快，但是这本用词似乎过于生动了一点，句子结构有些地方比较复杂，读起来有点磕磕绊绊的感觉。 2. 对于应付考试而言，本书没...

个人觉得很难入门。我看的是英文版的，第三版吧，记不大清楚了。
作者其实讲述还是挺清楚的。但是我个人觉得对它的思路不太适应，所以看起来还觉得有些困难，没有连续的看，但是中途看了好多次。至今没有看完……还早
在看这本之前，我是学习过常微分方程。也许一点没有学过...

只想学解方程的别看，想详细了解定性稳定性理论的也别看，如果是想直观了解一点微分流形，倒是可以考虑翻翻~