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## Introduction

The scope of this part is to provide the reader with basic physical and mathematical principles that are necessary to understand the discussions in the following chapters. Furthermore, a notation is introduced, which will be utilized throughout the remaining book. No special previous knowledge is required from the readership. Nevertheless, a basic scientific knowledge is advantageous. Part I makes no claim to provide a complete overview. Many things can be discussed only very briefly. For a more detailed description of special topics and background information, the readers are provided with suitable references.

Those readers who are already familiar with the physical and mathematical concepts can skip this part and look up certain points later if necessary.

