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Abstract

The book is a comprehensive textbook for the laboratory part of the physics course, as it is taught mainly in Engineering Departments. After a concise but comprehensive introduction to Error Theory and methods of graphing and evaluating experimental measurements, twenty-one Laboratory Exercises from the areas of Mechanics, Electromagnetism, Heat, Electronics and Atomic Physics follow. For each of them there is a brief but complete theoretical documentation of the experimental methodology, including self-assessment

questions, followed by a detailed description of the experimental procedure and the method of evaluation (computational and graphical) of the experimental measurements. In the first of the exercises, the method of calculating the errors involved is also developed in detail, so that the trainees become familiar with the relevant methodology and can apply it to the remaining exercises. In the electronic version of the book the experimental procedure is described by means of self-contained Flash animations.

