



BOOK REVIEW

Computer Algebra Recipes for Mathematical Physics, by Richard H. Enns, Birkhäuser, Boston·Basel·Berlin, 2005, xiv + 390 pp + 106 illustrations and CD-ROM included, 72.76€, ISBN: 0-8176-3223-9

This book is designated for those readers wanting to use Maple 9.5 features to solve problems related to the mathematical physics. The text is intended to be self-contained as much as can be such and to serve as a textbook, or even as a reference. The author idea is to guide the reader through some classical problems and to explain the basic Maple commands in “runtime” mode. The material consist of 230 worksheets organized around groups of specific problems in the Mathematical Physics. Each of these problems (called recipes) is briefly presented in the text and implemented using Maple capabilities. Many additional exercises are included at the end of each section. All solutions of the discussed problems and the supplementary examples are available also on the included CD-ROM.

The text is divided in three *Parts*, each containing a few chapters grouped around concrete mathematical problems. The text follows the complexity of the recipes. In general the complexity of the physical problems coincides with the Maple need-to-know level, but it is obvious that the book could be used for a educational course as well.

The first part called *Appetizers* which is in fact an introduction, covers problems related to the linear Ordinary Differential Equations(ODEs), Taylor and Fourier series and their applications to ODEs solving and some linear algebra basics. As it is common for such kind of textbooks at the beginning of each section there are some theoretic explanations regarding the mathematical background. This introduction is used also to provide and train all the “must to know” Maple rules. All commands and options that are frequently used in this “language” are well presented and exploited. It is important to mention that most of the recipes in this sections could be directly solved from the build-in Maple functions.

The second part – *Entrees* contains examples concerning solving linear Partial Differential Equations (PDEs), complex variables, scalar and vector fields, varia-