

## Preface to the Fourth Edition

In the present edition the illustrations of the *Picture Book* appear in full color. The scope of the book was extended again. There is now a chapter on hybridization and sections on bound states and on scattering in piecewise linear potentials in one dimension.

From the web page [www.extras.springer.com](http://www.extras.springer.com) all illustrations can be downloaded for easy use in lectures and seminars. The inclusion of a CD-ROM with that material (as in the third edition) is no longer necessary.

To generate the computer graphics of the first edition of the *Picture Book*, we developed an interactive program on quantum mechanics. A modernized version, which we call INTERQUANTA (abbreviated **IQ**), together with an accompanying text has been published by Springer in various editions. The most recent one<sup>1</sup> can be regarded as companion to this *Picture Book*. It allows interactive manipulation of a host of physics and graphics parameters and produces output in the form of static and moving pictures. The program runs under Windows, Linux and Mac OS X. It is a pleasure to acknowledge the generous help provided by IBM Germany in the development of **IQ**. In particular, we want to thank Dr. U. Groh for his competent help in the early phase of the work.

All computer-drawn figures in the present edition were produced using the published version of **IQ** or extensions realized with the help of Mr. Anli Shundi, Dr. Sergei Boris, and Dr. Tilo Stroh.

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<sup>1</sup>S. Brandt, H. D. Dahmen, and T. Stroh *Interactive Quantum Mechanics – Quantum Experiments on the Computer*, 2nd ed., Springer, New York, 2011



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