

For those in a hurry: a quick start for the computer programs

On the enclosed CD programs are supplied that run in a Windows or Unix environment. **sp** produces the normal space-time simulations, **xy** the simulations in two-dimensional fields. The programs can be started directly from the CD; no special installation is required. More convenient is to copy the directory [**simulation programs**] with all sub-directories onto the hard disk. After program start, a list of the most frequently used commands is given on the initial screen. Other commands and parameter changes can be selected from a menu by pressing F1. The character – > at the bottom right is the prompt, indicating that the program is waiting for a command.

Most figure captions in this book contain commands to reproduce the corresponding simulations. Such a command consists of the letter **S** (Simulation) followed by the figure number. For instance, **S61** will produce the simulation shown in Figure 6.1; **S** alone will start the simulation with the actual set of parameters, and **Rxx** reads a new set of parameters without starting the simulation and **I** sets the initial conditions according to the actual parameters. The case of the input letters does not matter.

Simulations that require more complex input from the keyboard have been simplified using “GUIDED TOURS.” In this case, the input is read from a file line by line; the tour only occasionally requires pressing of the <RETURN> key. For instance, the command **GT32** leads to the simulations shown in Figure 3.2. The command **GT** produces a list of all available GUIDED TOURS with the option to choose one. **GT1**, **GT2**, and **GT3** are introductory TOURS; **GT4** illustrates the use of different screen resolutions.

Additional information and information about the compilers and re-compilation of the programs can be found in the file COMPILER.TXT.

A word of precaution...

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Table 11.1. For those in a hurry: a quick start for the computer programs

The computer programs

11.1 Introductory remarks

The programs supplied on the CD are modified versions of my own working programs. Originally written in FORTRAN, they have been translated into BASIC. The program **sp** is a Windows/Unix version, compiled with FreeBasic, a compiler that is freely available on the Web. Two-dimensional simulations can be performed with the program **xy**. DOS versions are mentioned further below. Do not expect the programs to be as perfect as a commercial product. Consider them as an extension of the book and as a tool to develop some intuition about the complex world of non-linear interactions. I am sure that the program is not free of errors and that it contains awkward parts left over from earlier versions. However, since the source code is provided, it should be possible to make corrections or improvements if desired. Conversion from the BASIC dialect to other programming languages should not be too difficult.

The program does not have a fancy interface. Instead of the mouse, it uses explicit short commands that may require getting used to. However, with some experience, changing parameters, inputting new commands, and starting the simulations require only very few key strokes, enabling a rapid and convenient operation. Certainly the best way to become familiar with the commands is to practice them. For those who do not want to delve too deeply into the program but would like to reproduce the simulations shown in this book, it may be encouraging to know that the very simple commands given in the figure captions are sufficient.

11.2 Using the program

As mentioned above, the programs can be started directly from the CD and do not require a special installation. However, more convenient is to make a copy on the hard disk including all subdirectories. The programs **sp** and **xy** should run in any standard WINDOWS or UNIX environment.