

Appendix F

The svn-repository of the Heidelberg MCTDH package

We use *Subversion*, or short *svn*, for version control of the MCTDH package. As *svn* is likely to be available on your computer installation, we open the possibility to download the MCTDH package directly from our *svn*-repository, rather than from the MCTDH web-site <http://mctdh.uni-hd.de/packages/> . If you are new to *svn* you may wish to consult the *svn*-book, which can be downloaded from the URL <http://svnbook.red-bean.com/en/1.7/svn-book.pdf> .

To access the MCTDH *svn*-repository, a username and password are needed. These are given in the *Letter to the new MCTDH user* and are the same as the ones requested to access the MCTDH web-site <http://mctdh.uni-hd.de/packages/> .

F.1 Useful *svn* commands

In order to abbreviate the commands, we suggest to add the following lines to your `.bashrc` or `.alias` file.

```
alias svnm="svn --username <user> --password <psswd> --non-interactive"  
export SVNRM="svn://www.pci.uni-heidelberg.de:/mctdh"
```

where `<user>` and `<psswd>` are to be replaced with the username and password given in the *Letter to the new MCTDH user*.

To get an overview on the available releases of the `mctdh 8.4` branch, submit the command:

```
svnm list $SVNM/mctdh84/releases/
```

This will provide an output similar to

```
8.4.10/  
8.4.4/  
8.4.4.1/  
8.4.4.2/  
8.4.5/  
8.4.6/  
8.4.7/
```

```
8.4.8/  
8.4.8.1/  
8.4.9/  
8.4.9.1/  
8.4.9.2/
```

where, of course, one may exchange `mctdh84` with `mctdh83` or `mctdh85` to list the contents of those directories.

If you want to download version 8.4.10 (this is an example, please download the most recent version), type

```
svn export $SVNM/mctdh84/releases/8.4.10/ mctdh84.10
```

where the directory `mctdh84.10` will be created by `svn`, it should not previously exist. Of course, one may give any name to the final directory and may give its full path, if it is to be created in a directory different from the current one. The `svn export` command will provide you with exactly the same data as found on the `mctdh84.10.tgz` file of <http://mctdh.uni-hd.de/packages/>.

A better alternative is to use

```
svn checkout $SVNM/mctdh84/releases/8.4.10/ mctdh84.10
```

The difference is that with this command additionally a couple of `.svn` files will be copied to the final directory, which almost doubles the size of the latter. However, the `.svn` files give you access to most of the `svn`-commands. E.g. moving (`cd`) the `mctdh`-directory (here `mctdh84.10`) and submitting the command

```
svn status
```

will tell you which files are modified or added with respect to the repository. Or

```
svn diff --old=$SVNM/mctdh84/releases/8.4.10/ --new=.
```

will display the differences between your code and the one on the repository. (You may pipe this output to `less`). If you would like to have a line by line comparison of the two versions, you may add the option `--diff-cmd kdiff3` to the command above.

If you have already checked-out a previous version and want to merge with a newer one, type e.g.

```
svn merge $SVNM/mctdh84/releases/8.4.9/ $SVNM/mctdh84/releases/8.4.10/
```

This command merges the differences between release 8.4.9 and 8.4.10 to your `mctdh`-directory, which must be the current directory. Here we are assuming that you are working with release 8.4.9 and are updating to 8.4.10.

Moreover, rather than downloading a release, one may download the current developers code

```
svn checkout $SVNM/mctdh84/trunk/ mctdh84.dev
```

This makes life easier, as one can simply run

```
svn update
```

to merge with the most recent changes. However, this way is recommended more for experienced users, as the current developers code may not be bug-free. To be on the safe side, one

may run the command

```
svn cat $SVNM/mctdh84/trunk/changelog | less
```

and then update to an appropriate revision by setting the option `-r<number>`.

Finally, if one is interested in the branches 8.3 or 8.5 rather than 8.4 one simply replaces the version numbers accordingly.