

A Compendium of Partial Differential Equation Models:

Method of Lines Analysis with Matlab

William E. Schiesser and Graham W. Griffiths
(Cambridge University Press, ISBN-13: 9780521519861)

Contents

| | | |
|----------|-------------------------------------|----------|
| 1 | Installation of Matlab files | 1 |
| 2 | Set Matlab Path | 1 |
| 3 | Running an Application | 2 |
| 4 | Files Provided | 2 |
| 4.1 | dssLIB | 2 |
| 4.2 | CompendiumSRC | 2 |

1 Installation of Matlab files

- Unzip the files into a *temporary* directory.
- Move the directory `compendiumSRC`, which contains the Matlab *application files*, to a suitable location, e.g. where you keep your *Matlab project files*.
- Move the directory `dssLIB`, which contains the Matlab *numerical differentiation files*, to a suitable location, e.g. where you keep your *Matlab library files*.

2 Set Matlab Path

Set the Matlab path to include the directory `dssLIB` so that Matlab knows where to find the *DSS library files*. This can be achieved as follows, assuming path `C:/MatlabLibrary/dssLIB` :

- Within the Matlab environment, at the prompt type:
`addpath('c:/MatlabLibrary/dssLIB')`
or
- Within the Matlab environment, follow the instructions below (extracted from Matlab Help):
From the *Current Directory browser*, you can add directories to the MATLAB search path. Right-click and from the context menu, select Add to Path. Then select one of the options:
Current Directory - Adds the current directory to the path.
Selected Folders - Adds the directory selected in the Current Directory browser to the path.
Selected Folder and Subfolders - Adds the directory selected in the Current Directory browser to the path, and adds all of its sub-directories to the path.

This ensures that Matlab will know where to locate the DSS library routines when they are called from any Matlab application.

3 Running an Application

Within the Matlab environment, browse to the desired application directory and at the prompt type the name of the Matlab file (omitting the file extension 'm') that you wish to run, e.g. `../chapter05/pde_1_main`

Matlab will now run this file, calling DSS library functions as necessary.

4 Files Provided

Files provided in addition to this file, `installation.pdf`, are shown below.

4.1 dssLIB



Figure 1: dssLIB Directory Structure

4.2 CompendiumSRC

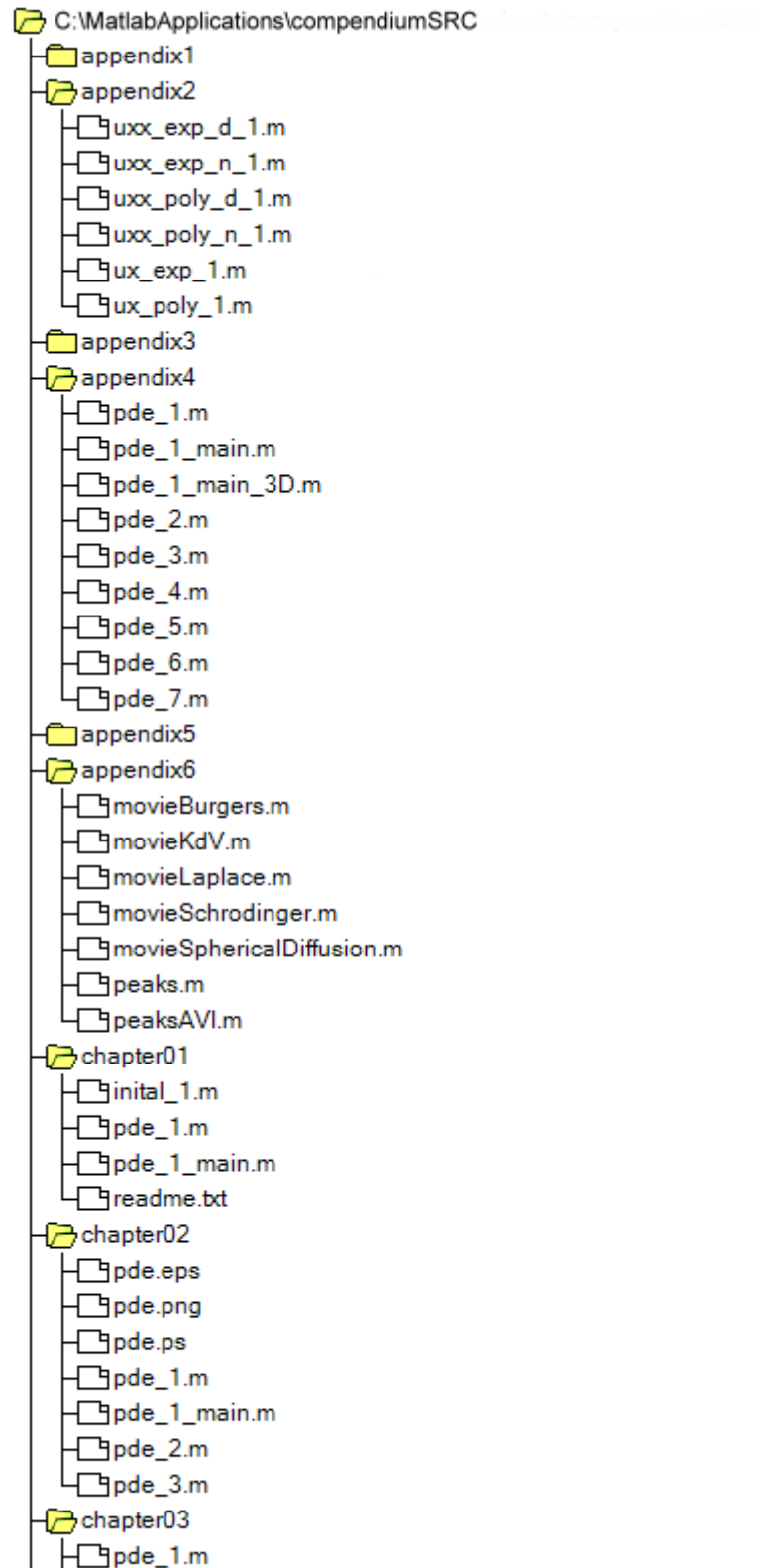


Figure 2: compendiumSRC Directory Structure, 1 of 3

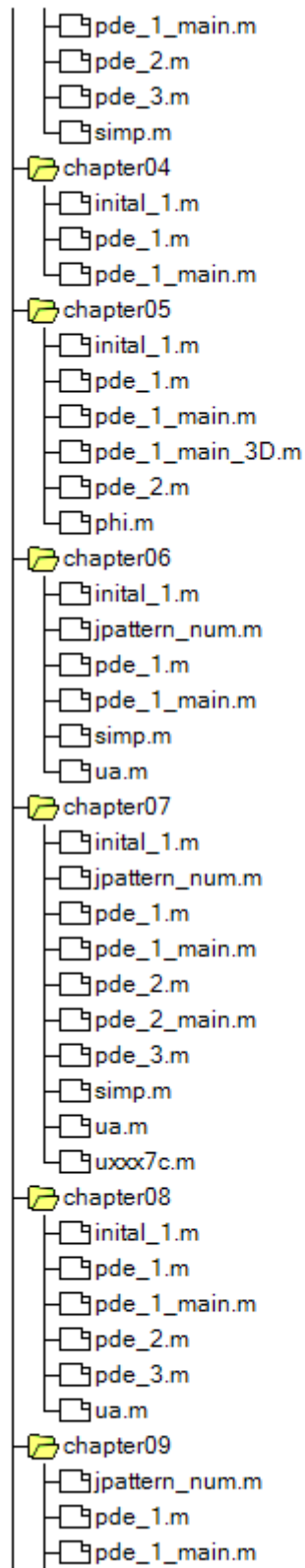


Figure 3: compendiumSRC Directory Structure, 2 of 3

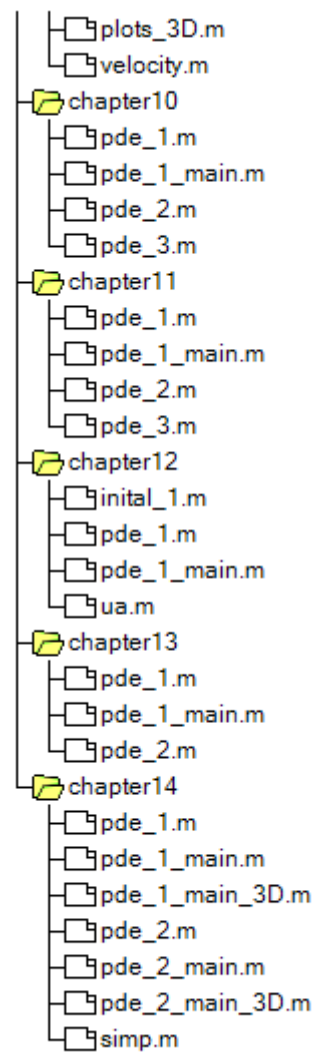


Figure 4: compendiumSRC Directory Structure, 3 of 3