kSEMAW is a workspace for the analysis of Spectrophotometric (SP), Ellipsometric (ELI) and Photothermal Deflection Spectroscopy (PDS) measurements. The letter “k” indicates the use of the Qt libraries.

Features

- simulate SP, ELI and PDS measurements of a multilayer structure, being known the thicknesses and the complex refractive indexes of each material composing the different layers
- calculate the complex refractive index and the thickness of a given layer (if ``thin") from experimental measurements (SP, ELI, PDS), being known the thicknesses and the complex refractive indexes of all the other layers composing the structure
- evaluate the mean value of physical quantities, weighted on a given international standard spectrum (such as ASTM G173-03) or on own customized reference spectrum
- predict the angular trend by using a realistic model or the equivalent model algorithm

Data and software availability
Code source files, user manual as well as a sample of working directories populated with assorted files can be freely downloaded from https://github.com/mmonty1960/ksemaw_v0.9.6

The FORTRAN executable requires the two libraries MINPACK and PGPLOT.

In order to harmonize the MINPACK sources with the GNU FORTRAN compiler (gfortran), a slightly modified version is added to kSEMAW sources; that complies with the MINPACK disclaimer (https://www.netlib.org/minpack/disclaimer).

The library PGPLOT is offered as a binary package in most of LINUX distros. As declared in the copyright: ”PGPLOT is not public-domain software. However, it is freely available for non-commercial use'”, like in the case of kSEMAW.

The C++ executable is devoted to control the Graphical User Interface (GUI), which is based on the open source version of the Qt library, which is offered as binary packages in any LINUX distro.

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