RxpsG a new open project for XPS AES data processing

Giorgio Speranza[1, 2, 3]

[1]Fondazione Bruno Kessler – v. Sommarie 18, 38123 Trento – Italy.
[2] Department of industrial Engineering, University of Trento, v. Sommarive 9 38123 Trento – Italy.
[3] IFN-CNR, v. alla Cascata 56/C, 38123 Trento – Italy.

The efficacy of any experiment is correlated to the ability of extracting the correct information. For any scientist data analysis and representation is then a substantial part of the research work. At the conclusion of the experimental session, generally the researcher utilizes some software allowing data reduction and plotting. In the case of data provided by X-ray Photoelectron Spectroscopy instruments, this means carrying out the spectral analysis. Spectral analysis consists in a sequence of operations such as recognition of elements in wide spectra, definition backgrounds and subtraction from spectra, selection of lineshapes for peak fitting, graphical visualization. RxpsG is a public domain software with an easy user friendly interface based on the R platform. It is oriented to X-ray Photoelectron Spectroscopy (XPS) and Auger Electron Spectroscopy (AES) offering a complete list of tools for data manipulation. All the features needed to analyze XPS, AES spectra are implemented and the software allows an immediate data reporting. Although the RxpsG is primarily developed for XPS spectral analysis, generic data in text format can be imported and processed. RxpsG is a project open to contributions and implementation of new procedures. Aim of the present work is presenting the potentialities of the software and the more important features.

References:
[1] Giorgio Speranza, "Characterization of Carbon Nanostructures by Photoelectron Spectroscopies", Materials 2022, 15, 4434.