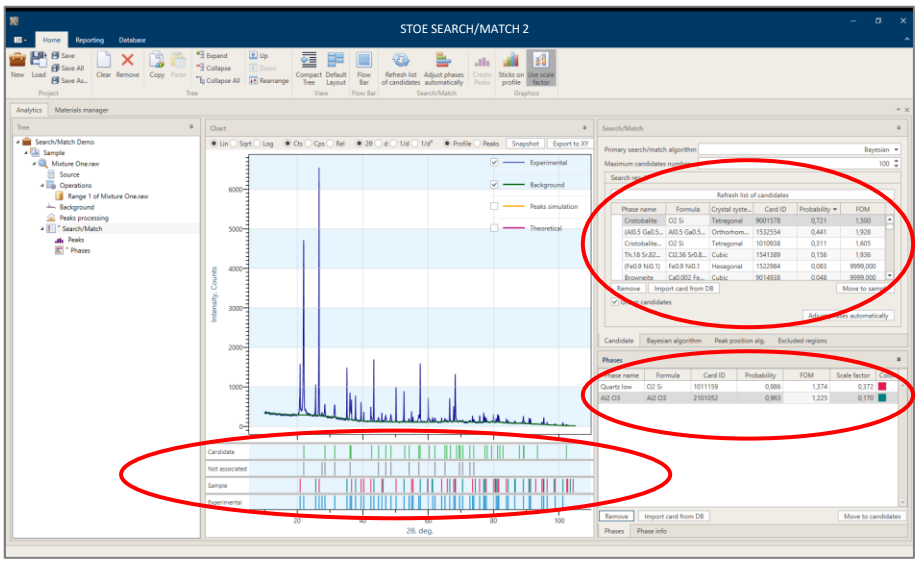
# THE NEW
# STOE SEARCH/MATCH 2

With the new SEARCH/MATCH 2, STOE introduces the COD as a second option to the well-proven PDF2/PDF4 database and sends the peak file into retirement – at least for phase analysis.

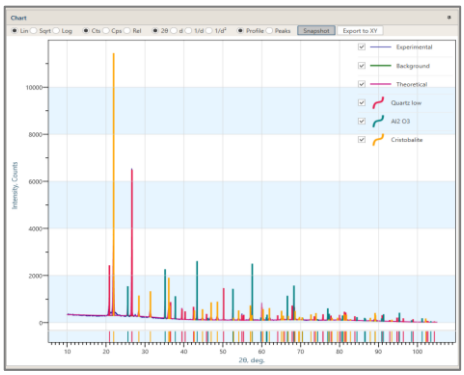



STOE SEARCH/MATCH 2 with lists for possible candidates and approved phases on the right and the pattern in the graphic with the markers for the found peaks as well as the interactive peak marker bars for the candidates, not associated and identified phases peaks (bottom to top)

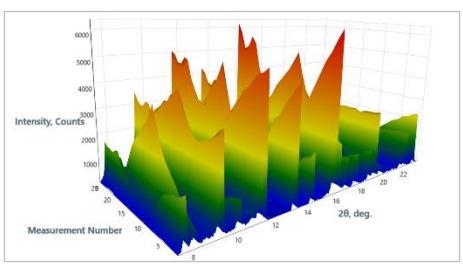
SEARCH/MATCH 2 appears in a fully new designed shell with modules for

- background correction
- peak search
- peak processing
- search/match
- profile fitting

and a powerful graphic chart for 2D and 3D data visualisation.



Phase analysis result in the graphic chart with the phase markers for quartz, $Al_2O_3$ and cristobalite and their referring marker sticks in the pattern




3D plot of the charge/discharge process of a $LiFePO_4$ battery *)

*) The group of Prof. Dr. A. Vlad, UCLouvain, Belgium is kindly acknowledged for providing the presented data.

Uploaded raw files, single or multi range files as well as series from repetition or non-ambient measurements, are stored in a SQL database assorted by projects. Each project gets an own branch in a tree structure with the employed modules in individual nodes.

The results from one module can easily be moved or copied to the next node by a drag and drop function.

Subsequently and in a brief summary a standard phase analysis with STOE SEARCH/MATCH 2:

- First of all, the raw data should run through a polynomial (Chebishev or Power Series) or empirical background correction before the peak search (peak top or second derivative method) is started and, in a second step, the detected peaks are fitted (Migrad or Levenberg-Marquardt algorithm).

- The peak list resulting from this peak processing is used for the phase identification, alternatively by a Bayesian or a Peak position approach. Matching phases are listed in order to probability or FOM and can be selected automatically or manually using the graphic chart with the peak marker bars and, if wanted, with optional phase marker sticks in the pattern.

- The final list of identified phases is the base for the finishing profile fitting using the Pawley or the Le-Baille method.

- A report function offers a user defined data sheet displaying the identified phases and required values graphically and in tables.

**For further information please have a look in the related webinars on STOE.COM or contact us for an online demonstration.**