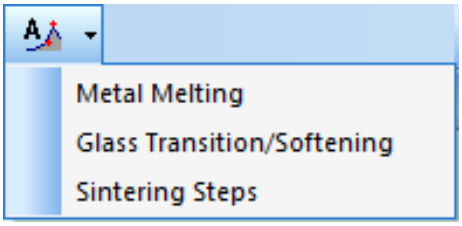
AutoEvaluation of DIL and TMA Curves

Dr. Alexander Schindler

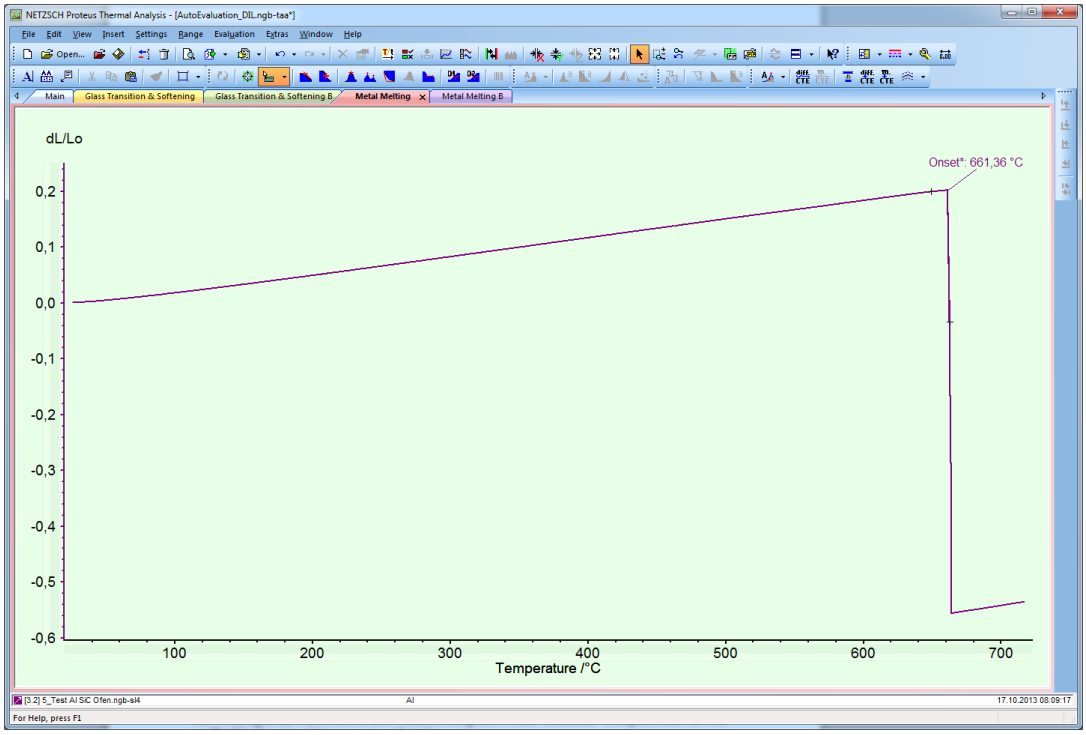


1 Software icon *"AutoEvaluation* of DIL and TMA curves" in *Proteus*® analysis

As of *Proteus*® version 8.0, *AutoEvaluation* can also be applied to dL signals originating from DIL *Expedis* and TMA 402 instruments. There are three independent functions available via the icon shown in figure 1, via right mouse click on a dL curve, or via the Evaluation menu.

These *AutoEvaluation* functions can also be incorporated into a measurement method which may either be created in the *Proteus*® measurement or the analysis software. In the Evaluation/AutoEvaluation/Settings menu of *Proteus*® analysis, the sensitivity of all *AutoEvaluation* functions can be adjusted continuously between "Fine" and "Coarse": "Fine" means that even very small effects will be found and evaluated while the effects must be larger when "Coarse" is used. After *AutoEvaluation* was carried out, the results can always be recalculated manually.

The first function, "Metal Melting", automatically evaluates the onset of the step in the dL signal due to melting of a metal sample, for example, during a temperature calibration measurement. An example is shown in figure 2.



2 Exemplary result of *AutoEvaluation* of a dL curve using the "Metal Melting" function

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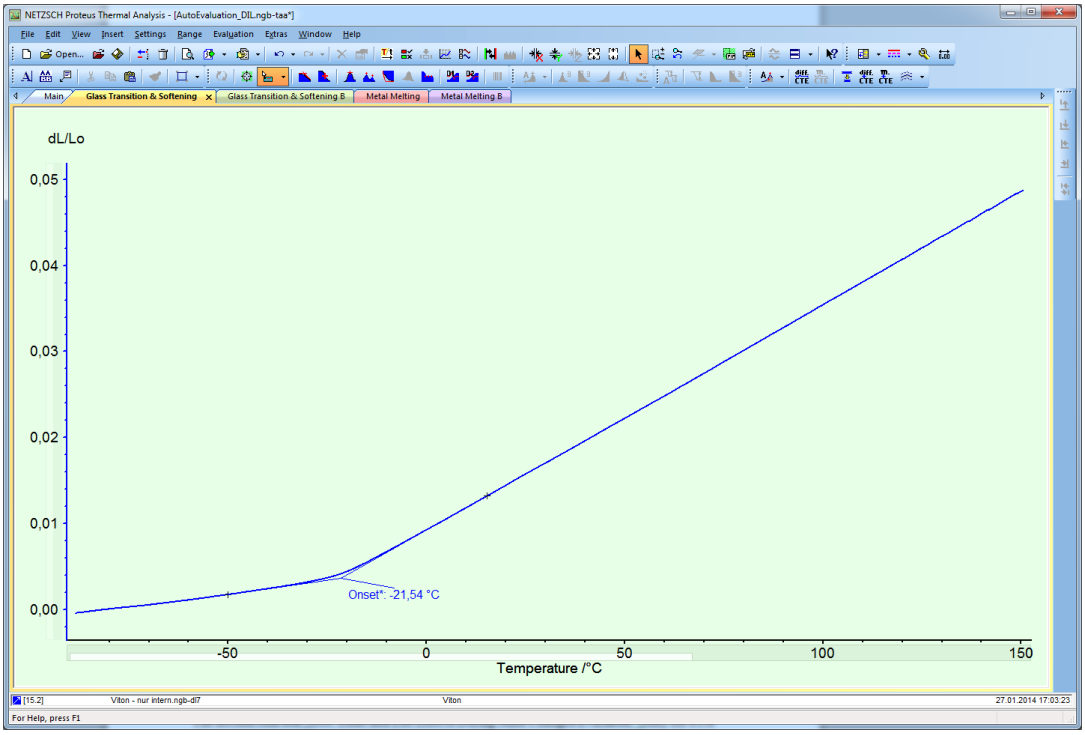
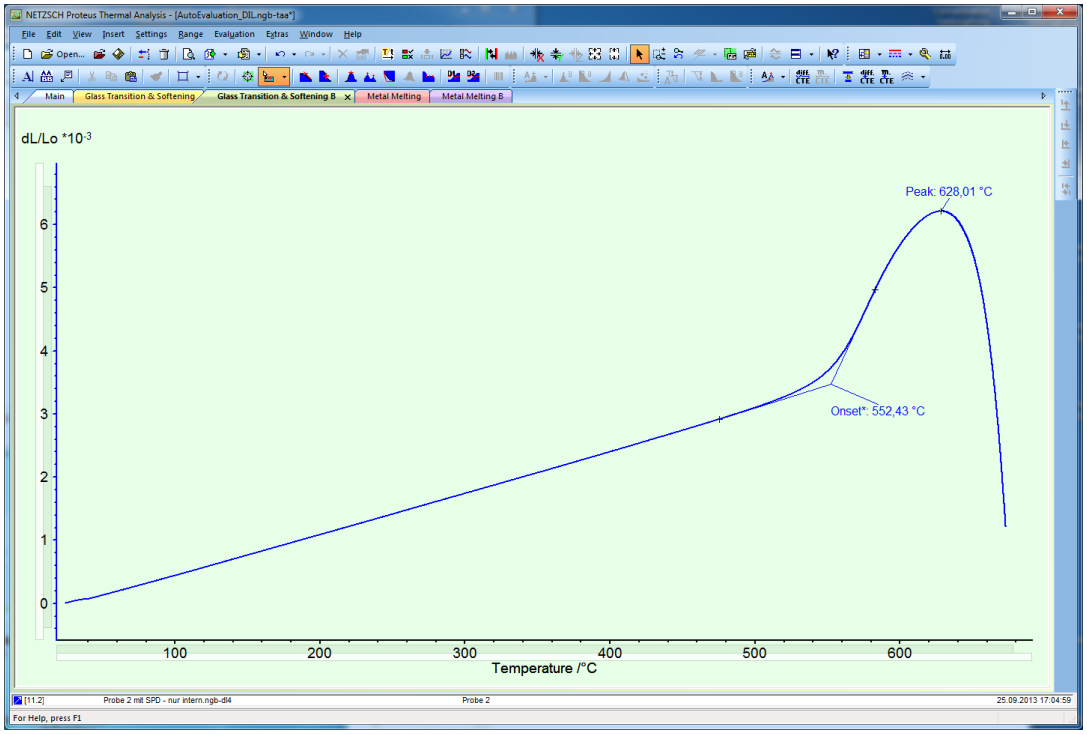
The second function, "Glass Transition/Softening", automatically evaluates the onset of a glass transition and the maximum of dL due to softening of a sample (see figures 3a and 3b).



3a Exemplary result of *AutoEvaluation* of a dL curve using the "Glass Transition/Softening" function



3b Exemplary result of *AutoEvaluation* of a dL curve using the "Glass Transition/Softening" function

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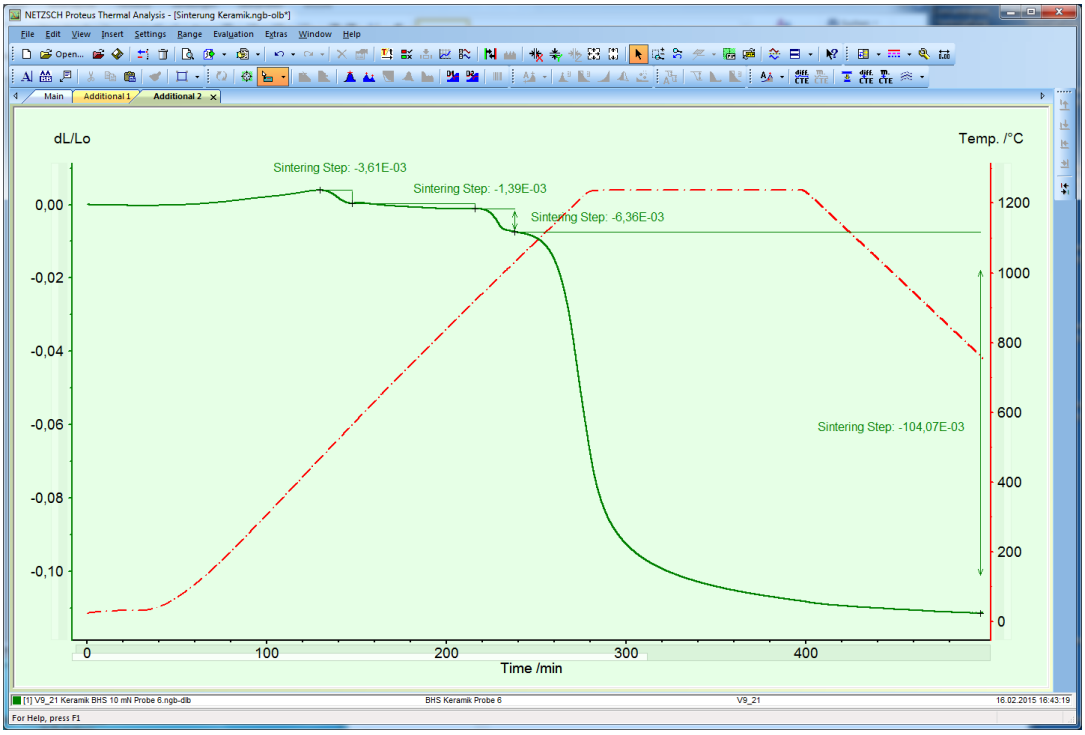
The third function, "Sintering Steps", automatically evaluates all significant dL steps due to sintering of a sample as can be seen in figure 4.



4 Exemplary result of *AutoEvaluation* of a dL curve using the "Sintering Steps" function

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