

EXPERIMENTAL DATA PROCESSING, BY GRAPHICAL USER INTERFACE CURVE FITTING TOOL

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Considering a data base, including the research results in superplastic deformation domain, and considering the difficulty to choose the optimal technological parameters in order to perform deformation of a material with superplastic behavior, on considered necessary to setup a simple and efficiently method for obtaining the best way to adjust experimental data, to interpolate and aproximate this data, in a certain situation, using Curve Fitting Tool (cftool function), which is a Graphical User Interface (named here GUI) on MATLAB environment.

Results of the experiments was saved as .xls and text files, in order to be easy used on MATLAB environment. This data files will be imported by dedicated procedures on MATLAB Workspace and Command Window respectively. This procedure could offer more than plotting results of adjust and fitting aims. The residuals, defined as the measure of aproximation errors by one or other fit procedure(Gaussian, exponential, Fourier, Polynomial, etc.). Fitting and interpolation procedure were used for study the behaviour of superplastic SUPRAL 100 (Aluminum 2004) and FORMALL (AL-7475)) alloys, on basis experimental data, obtained on blowing up by gasostatic forming technology. Below are presented snapshots and figures.

The procedure used here, in order to fit and interpolate, discrete measured data, using MATLAB environment toolbox, Curve Fitting Tool, has well application in this area.

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