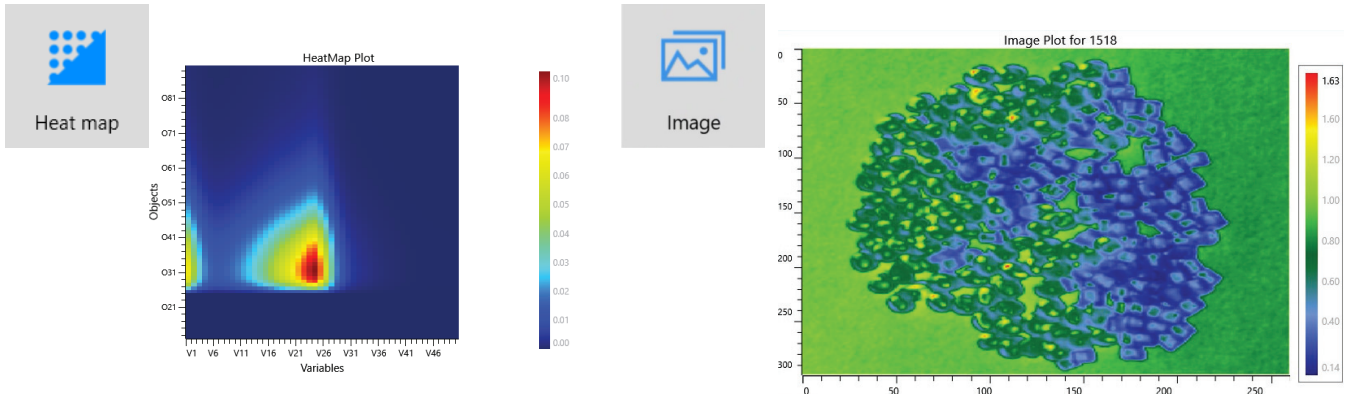# *VEKTOR DIREKTOR*™
Multivariate Analysis With Direction and Purpose

What's New in Version 2.0?

Heatmap and Image Plotting

New Preprocessing Methods

- Class Centring.
- Poisson Scaling
- Pareto Scaling

These methods are excellent for scaling instruments that generate count data.

Apply Weighting, Offset and Scaler weighting to selected variables.

New Analysis Methods: Machine Learning Made Easy!

- Support Vector Machine Regression and Classification

- Extreme Gradient Boosting Regression and Classification

Interactive model setup and controls make it the easiest implementation of these methods in a software package!

Radial Basis Function - Heatmap Plot

Support Vector :	21
Calibration RMSE :	0.45
Validation RMSE :	0.82
Epsilon_SVR :	944.13
Gamma :	0.03
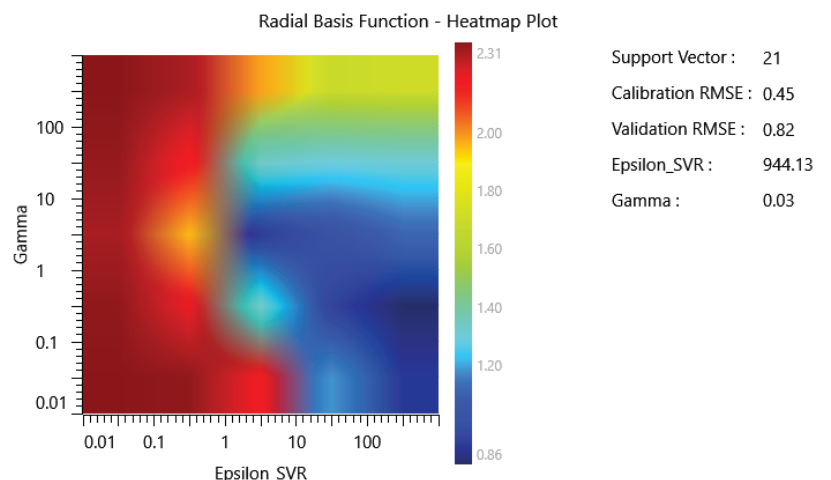
Compression Methods

Use PCA and PLSR Model Scores as inputs into MLR, SVM and XGBoost Methods.
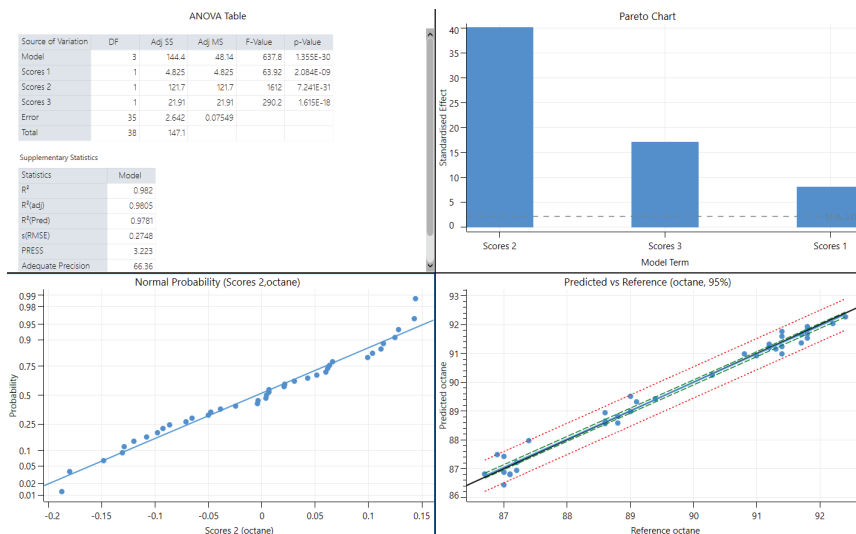
Object Ranges — ALL — *i*

X Variable Ranges — Spectra — *i*

Y Variable Ranges — octane — →

⌄ Include Higher Order Model Terms

⌃ Use PCA/PLSR Compression

Octane Data Set PCA — *i* 🗑

Number of Components — 5

ANOVA Table

Source of Variation	DF	Adj SS	Adj MS	F-Value	p-Value
Model	3	144.4	48.14	637.8	1.355E-30
Scores 1	1	4.825	4.825	63.92	2.084E-09
Scores 2	1	121.7	121.7	1612	7.241E-31
Scores 3	1	21.91	21.91	290.2	1.615E-18
Error	35	2.642	0.07549		
Total	38	147.1			

Supplementary Statistics

Statistics	Model
R²	0.982
R²(adj)	0.9805
R²(Pred)	0.9781
s(RMSE)	0.2748
PRESS	3.223
Adequate Precision	66.36

General Improvements

- Guided Wave (.json) file import.

- Improved Application of Preprocessing Templates when compiling an Analysis method.

- Customised Analysis Plot Layout Templates.

- Audit Trails can be saved in PDF format.

- Class Variables can be applied to Prediction data.

- Axis formatting added to all Analysis plots

KAX Group

Multivariate Analysis with Direction and Purpose

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